

BP Series BP-561



BP-500 Series User's Manual

Version 0.3

BP-561 Retail POS PC

Copyright Notice

This document is copyrighted, © 2012. All rights are reserved. Firich Enterprises Co., Ltd reserves the right to make improvements of the product described in this manual at any time without notice.

No part of this manual may be reproduced, copied, translated, or transmitted in any form or by any means without the prior written permission from Firich Enterprises Co., Ltd. Information provided in this manual is intended to be accurate and reliable. However, Firich Enterprises Co., Ltd assumes no responsibility for its use, nor for any infringements upon the rights of third parties, which may result from its use.

The material in this document is for product information only and is subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, Firich Enterprises Co., Ltd, assumes no liabilities resulting from errors or omissions in this document, or from the use of the information contained herein.

Record of Revision

Date	Specs Ver.	Description	Note
2012.10.30	V0.0	Initial	
2013/05/11	V0.2	Remark COM3 simple com only has RX,TX CashDrawer Provides Linux Sample code	Vince
2013/06/26	V0.3	Remove Touch Driver Section	
2014/1/17	V0.4	Some minor wording correction	Vince

Safety and Warranty

1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
14. If any of the following situations arises, get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.
 - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped and damaged.
 - f. The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.**

Table of Content

Chapter 1	5
Introduction	5
BP-500 (BP-561 / BP-562) Introduction	5
A Quick Tour for BP-500series	6
BP-500 Dimension.....	7
Rear I/O Panel Connectivity.....	8
BP-500 Packing List	9
Chapter 2	10
Hardware Installation and Upgrading	10
2.5" Hard Disk Drive Installation.....	10
Internal Power Supply Installation.....	11
MB / Heatsink & Smart Fan / Memory Installation.....	12
Memory (DDRIII RAM) & CPU Installation / MB Pin Define, Battery and Clear CMOS Setting	13
COM Port Power Setting.....	14
Integrated Smart Management LCM Installation (optional).....	15
Optional IO Board Installation	15
PCIe Expansion Installation	15
Cash Drawer Installation.....	16
Chapter 3	17
Software Installation and Setup	17
Chipset Driver Installation	18
Intel Chipset Installation Utilities for Windows XP	18
Intel Chipset Installation Utilities for Windows 7	19
.Net Framwork 3.0 Tool Installation.....	20
.Net Framework 3.0 Tool for Windows XP	20
VGA Driver Installation.....	22
VGA driver installation for Windows XP	22
VGA driver installation for Windows 7	24
Intel Management Engine Components Driver Installation.....	26
VGA driver installation for Windows 7	26
LAN Driver Installation	28
Realtek RT8111E LAN Driver Installation for Windows XP	28
Realtek RT8111E LAN Driver Installation for Windows 7	29
Audio Driver Installation.....	30
Realtek ALC887 Audio Driver Installation for Windows XP & Windows 7.....	30
Wireless LAN Driver Installation.....	31
Wireless LAN Driver Installation for all Windows Operating Systems (Optional)	31
Chapter 4	32
Specifications	32
BP-500 Specifications.....	32

Chapter 5	33
<i>Troubleshooting</i>	33
<i>Touch Panel Does Not Work (AerPOS with touch Only)</i>	<i>33</i>
<i>OSD Panel Cannot Work Precisely.....</i>	<i>33</i>
<i>Cannot Detect SATA Storage HDD/SSD</i>	<i>33</i>
<i>LAN Is Not Functioning Properly.....</i>	<i>34</i>
<i>COM1 ~ COM4 Are Not Functioning Properly.....</i>	<i>34</i>
<i>Cash Drawer Port Is Not Functioning Properly.....</i>	<i>34</i>
Chapter 6	35
<i>Appendix A:</i>	35
<i>Smart Management Tool User Guide</i>	35

Chapter 1

Introduction

BP-500 (BP-561 / BP-562) Introduction

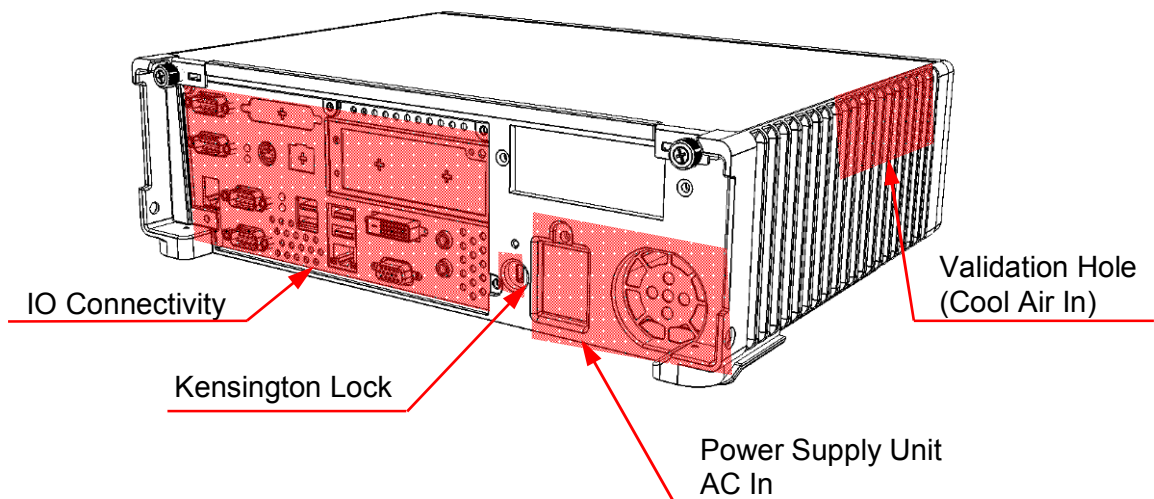
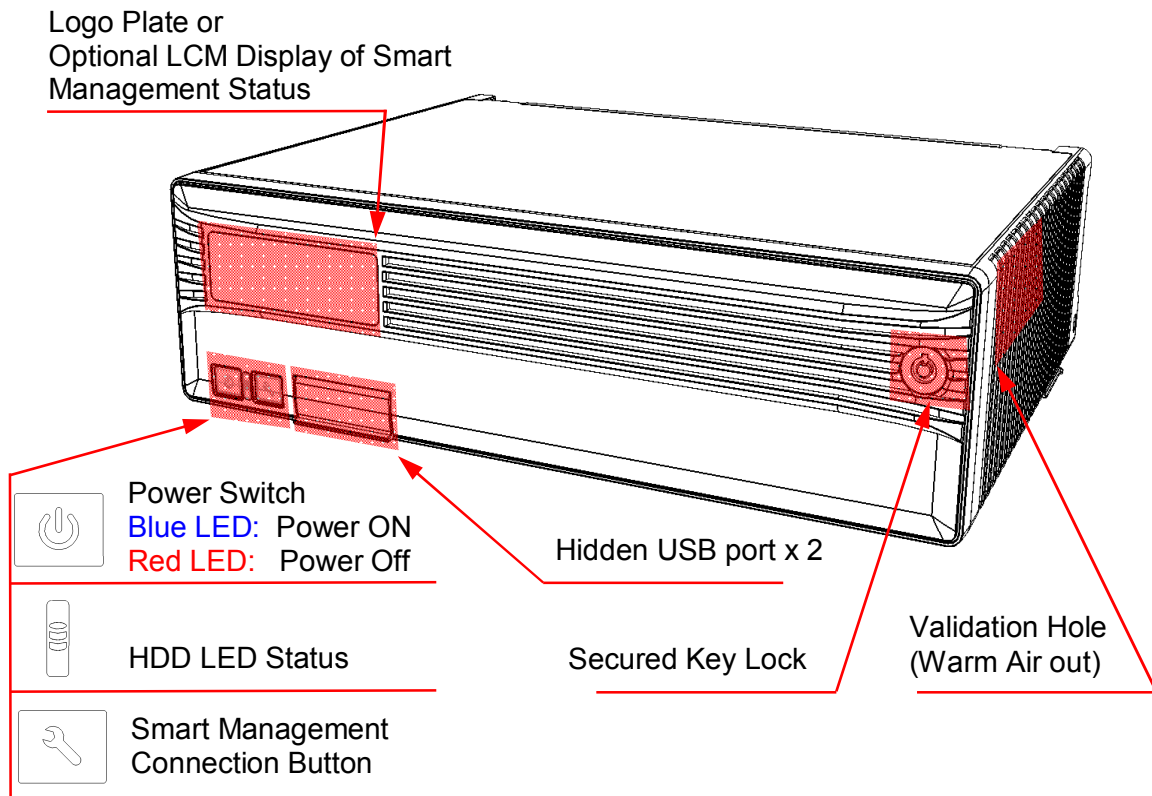
BP-500 is the powerful retail computing POS PC combination of reducing the Total Cost Ownership and enhanced quality requirement for POS system. With the design base on quality, space-effective and performance, its modularized design helps user no matter on the maintenance but the further upgrade in a very easy way.

Main Features:

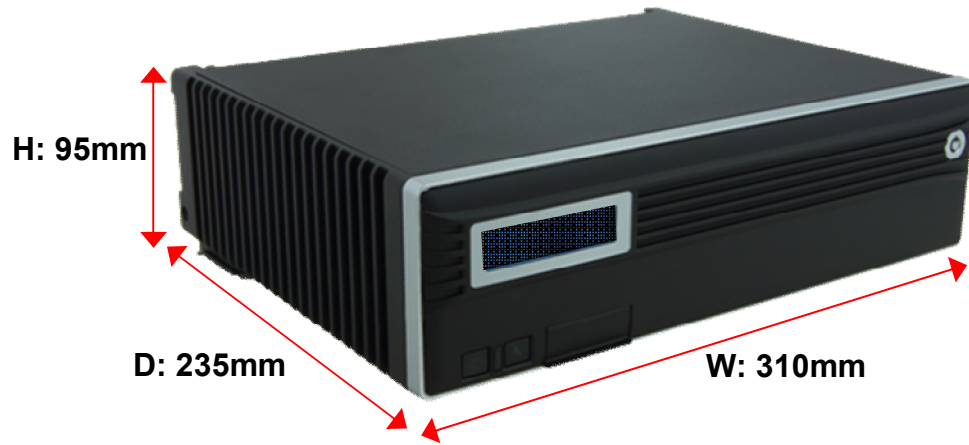
- The high quality of one piece Aluminum Chassis Design.
- Desktop solution with high performance is perfect for heavy loading retail applications. Mobile platform aims for green and energy saving requirement.
- Modularized design and easy maintenance for the key parts of the system, such as storage device, Power Supply and CPU module.
- With various devices support and sufficient I/O connectivity requirements.
- Integrated Smart Management H/W Status Display (option).



A Quick Tour for BP-500series



BP-500 Dimension

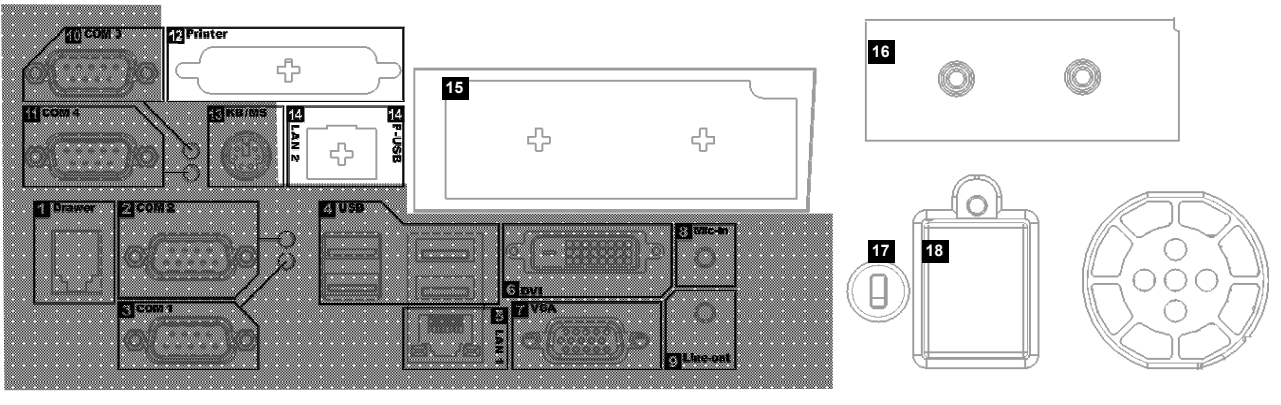


Rear I/O Panel Connectivity

I/O Port		Connector Type	Description
----------	--	----------------	-------------

1	Cash Drawer	RJ-11	Connect to 12V Cash Drawer
2	COM 2	D-sub9	Serial Port COM 2 LED Status: RI—NA LED ; 5V—Green Light ; 12V – Orange Light
3	COM 1	D-sub9	Serial Port COM 1 LED Status: RI—NA LED ; 5V—Green Light ; 12V – Orange Light
4	USB X 4	A Type USB	Connect to standard A type USB devices
5	LAN 1	RJ45	Connect to Ethernet
6	DVI	DVI-D	Connect LCD/LED touch monitors or CRT screen
7	VGA	D-sub 15	Connect 2 nd LCD screen or CRT monitors
8	Mic In	Microphone Connector	Connect microphone to this port
9	Line Out	Earphone connector	Connect speakers to this port
10	COM 3	D-sub9	Serial Port COM 3 —RX, TX only (simple COM) LED Status: RI—NA LED ; 5V—Green Light ; 12V – Orange Light
11	COM 4	D-sub9	Serial Port COM 4 LED Status: RI—NA LED ; 5V—Green Light ; 12V – Orange Light
13	KB/MS	PS2	PS2, Key Board / Mouse

BP-500 Series BP-561

I/O Port		Connector Type	Description
			
Optional IO Selection 12~16			
12	Printer LPT	D-sub25	(Optional) Connect with Printer
14	PW USB 12V	Power USB 12V	(Optional) Connect with P/W USB 12V Device
	PW USB 24V	Power USB 24V	(Optional) Connect with P/W USB 24V Device
	LAN-2	RJ-45	(Optional) Connect with 2 nd Ethernet
15	FEC IO Board	Type A	24V DC out x 1 Serial RJ45 x 2
		Type B	24V P/W USB x 1 Serial RJ45 x 2
		Type C	12V P/W USB x 1 Serial RJ45 x 2
		Type D	12V P/W USB x 1 24V P/W USB x 1
16	PCIe Extension Area	DC 12V Jack x 2	(Optional) 12V DC out put connect to 12V peripherals or devices
		PCIe x 1	(Optional) Install with Raiser Card and Standard PCIe extension IO card
17	Kensington Lock	Standard Kensington	Lock hole compatible with Kensington Lock
18	AC IN	AC IN connector	Connect with 100-240V AC power
		Before you connect the peripheral devices into the optional IO connectivity, please ensure IO combination is the proper one.	

BP-500 Packing List

Standard		Optional & Peripherals	
1	BP-500 POS PC	1	Numerous Optional IO Interface
2	Cable Cover (Optional)	2	Smart Management LCM Display
3	AC Power Cable	3	2 nd SATA Drive & 3 rd SATA DOM

Chapter 2

Hardware Installation and Upgrading

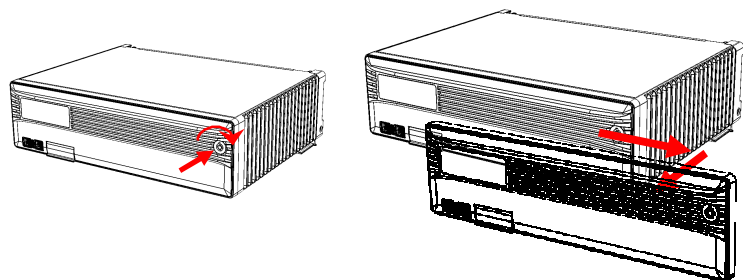


*Do not Hot Plug any of the Modules without switch off the terminal.
Such as Power Supply, SATA Storage, MB, and the Swappable IO
Modules.*

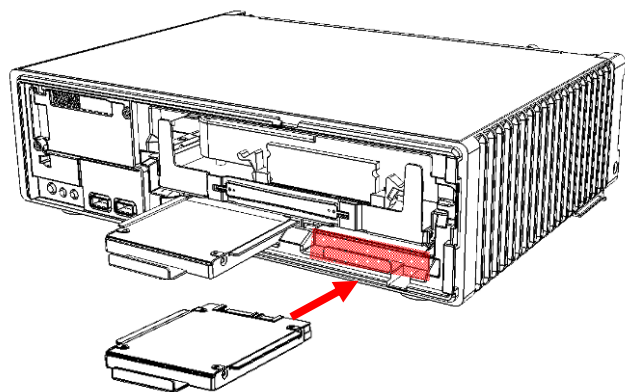
2.5" Hard Disk Drive Installation

1. Turn off power and remove power cord from the terminal

2. Unlock the Front Bezel by the proper key, and Remove the Front Maintenance Bezel.



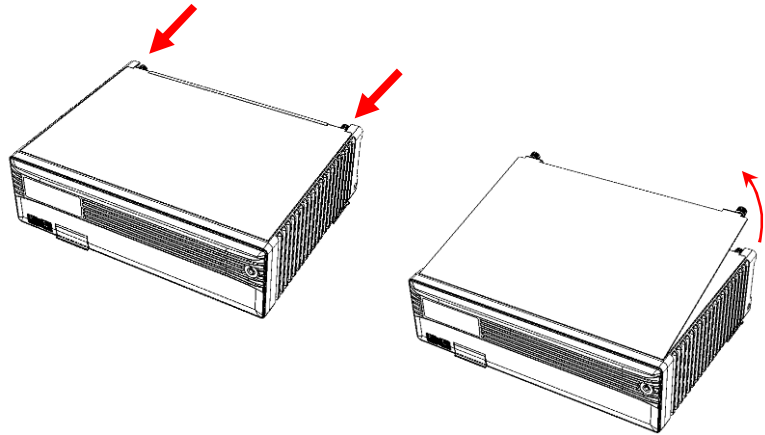
3. Install the SATA Storage Module into either left or right Bay.



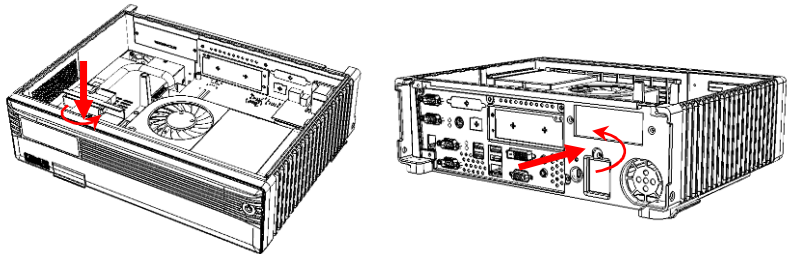
4. Restore the maintenance door to the system and Locked by Key
5. Connect power cord and Boot up the system.

Internal Power Supply Installation

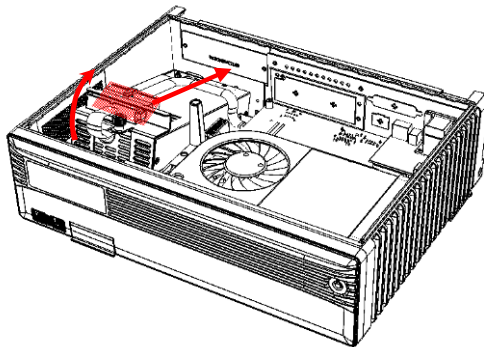
6. Remove top cover of BP-500 by release two thumb screws from the back side.



7. Release the thumb screen in front of Power Supply, and unfasten the screw at the back side of Power Supply.



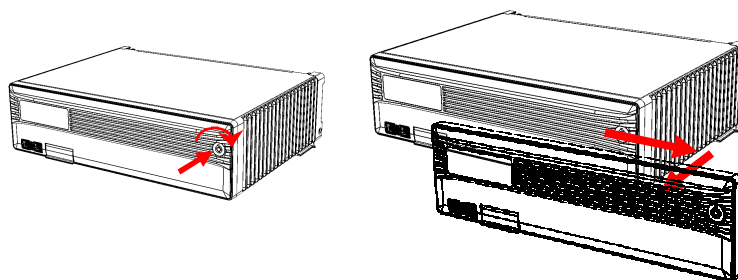
8. Lift Power Supply Unit and disconnect the ATX Cable.



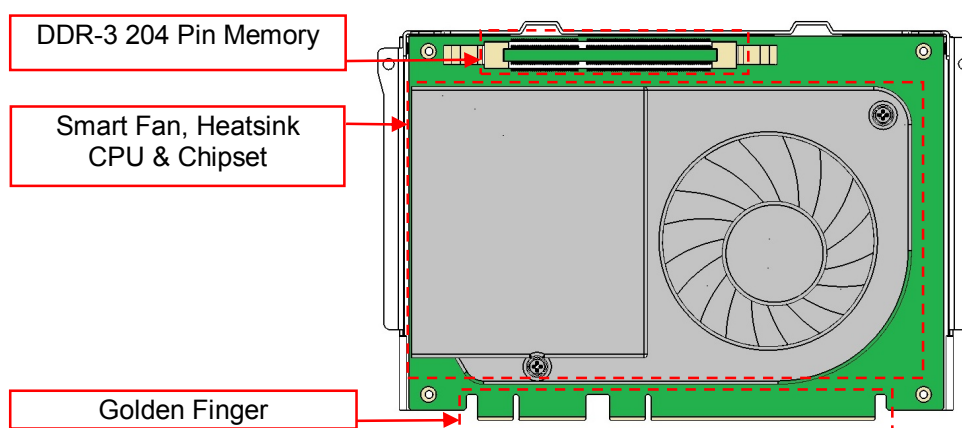
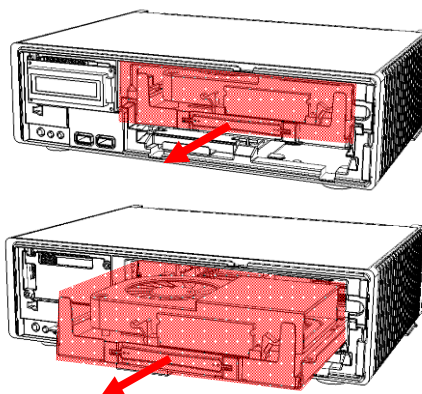
9. Make sure the AC-Power is disconnected and before install and disassemble the power supply unit.

MB / Heatsink & Smart Fan / Memory Installation

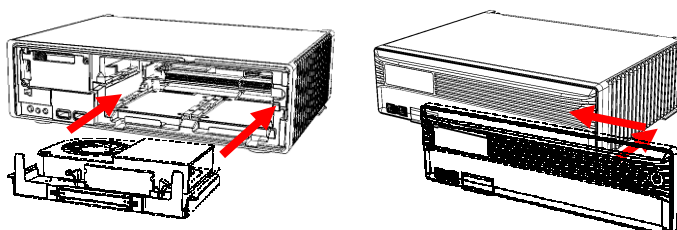
1. Unlock and remove the maintenance front bezel.
2. Another two screws at the both side of MB Module should be removed for the further disassembly.



3. Pull out the MB Module from the Terminal Chassis.

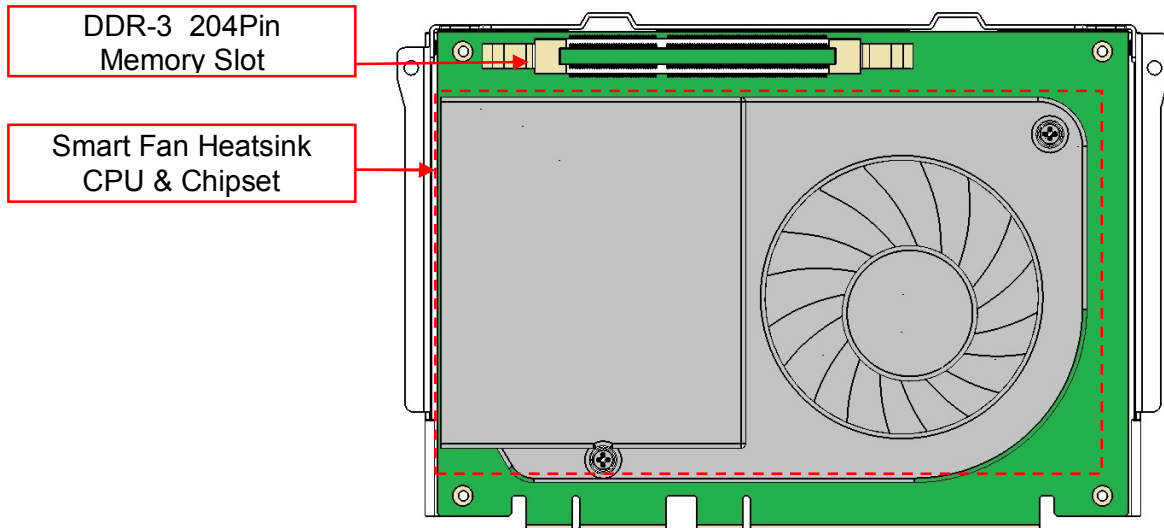


4. During the MB installation, Please Make sure the MB Golden finger is well connected with IO Board Slot.
5. Finally, after the MB installed, assembly the front bezel and lock the front door.



Memory (DDRIII RAM) & CPU Installation / MB Pin Define, Battery and Clear CMOS Setting

1. Disassembly the MB Module, then Memory installation can be done from the top side of MB Module. CPU installation has to remove Thermal Fan Module by 2 screws, after the CPU installation, please ensure the thermal pads between CPU, chipset and heatsink are well contacted.

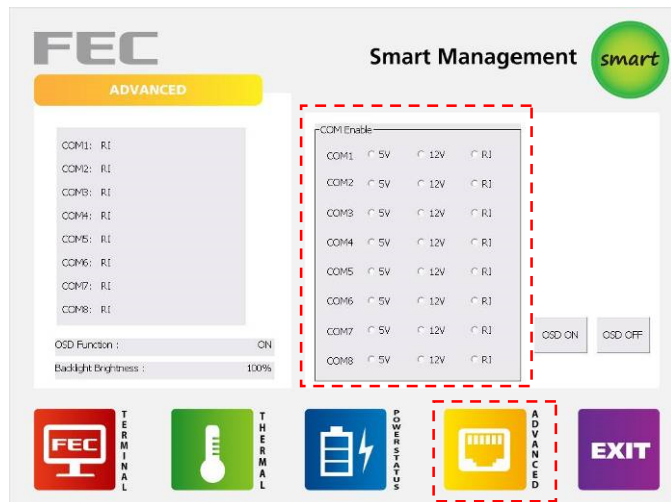


2. According to the MB on-board connectors or golden finger pin define and Battery Setting, CMOS Clear, please refer to the FH-H611 MB Manual. (Will update soon)

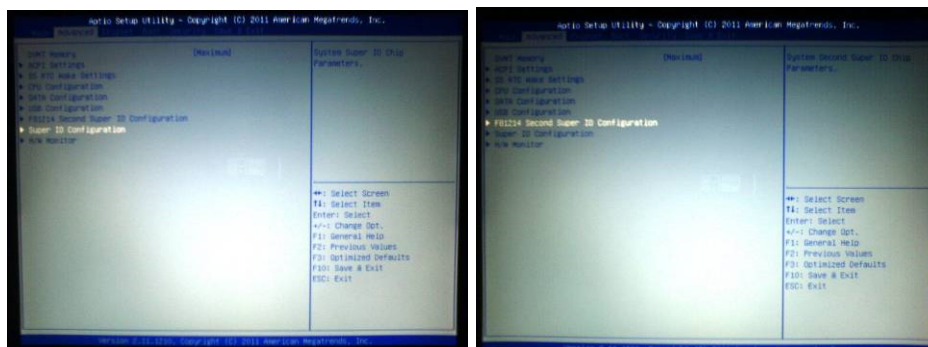
COM Port Power Setting

BP-500 COM Port Power can adjust via BIOS or Smart Management Tool.

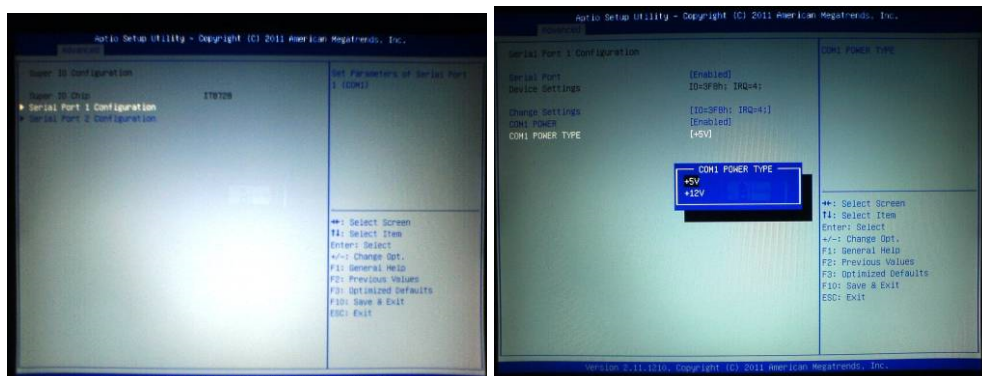
1. COM Port Power Configuration by Smart Management Utility:
2. Advanced > COM Enable



3. COM Port Power Configuration by BIOS:
4. Advance > ITE 8728F Super IO Configuration > Serial Port 1 or 2 Configuration
Advance > Realtek F81214 Super IO Configuration > Serial Port 3 or 4 Configuration



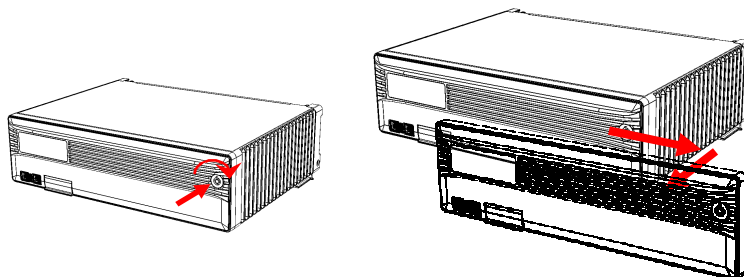
5. COM 1 or 2 or 3 or 4 Port Power > Enable
COM 1 or 2 or 3 or 4 Power Type > +5V or +12V (select the proper power output for proper com port devices)



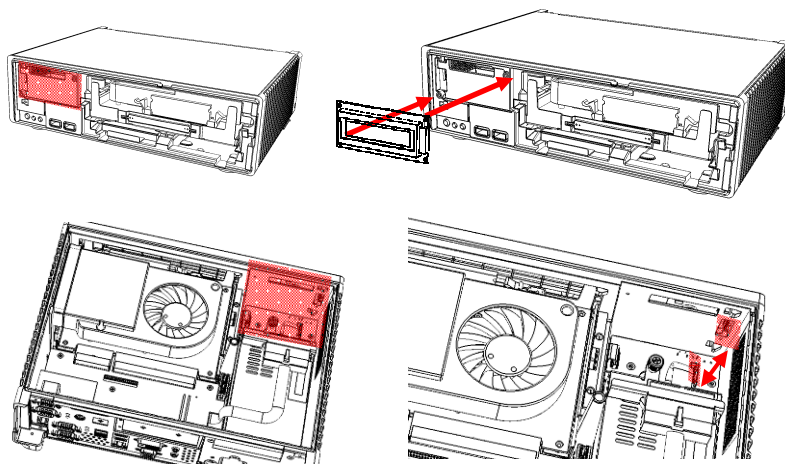
If you need more information about the BIOS setting or Smart Management Setting, please refer to the MB Manual or Smart Management Manual or contact FEC's FAE.

Integrated Smart Management LCM Installation (optional)

1. Unlock and remove the maintenance front bezel.



2. Fix the Smart Management LCM Display with two screws & one Internal Cable. Finally, assembly the top cover back.



3. Smart Management LCM display the information shows the data and status of BP-500
**** Please note, if customer wants to know more about Smart management, please refer to the Smart Management Manual.**

Optional IO Board Installation

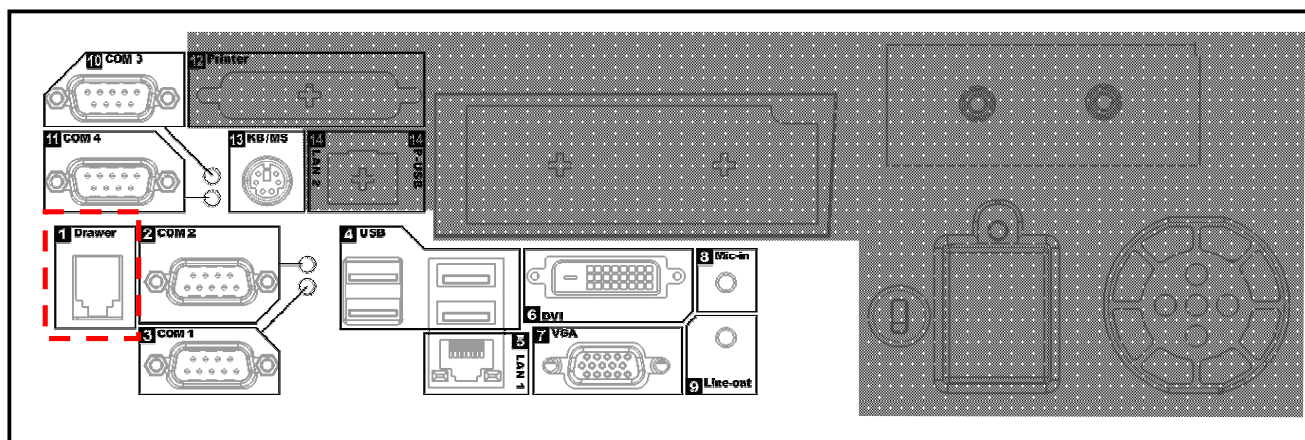
The detail optional IO Board installation and SOP please refer to Service Manual and SOP

PCIe Expansion Installation

The detail PCIe Expansion Card installation and SOP please refer to Service Manual and SOP. Note: the Standard PCIe Card has to use "half size"

Cash Drawer Installation

Before connecting the cash drawer to the **BP-500**, please make sure the drive voltage and cable pin assignment of the cash drawer matches the definition of the cash drawer port of **BP-500**.



Note: If the cash drawer cannot be detected by the system, please refer to [trouble shooting](#).

Up to two cash drawers may be driven from this port. Driving voltage of the solenoid is DC+12V. I/O port 284 is used for drawer operation. A test program is supplied, for Linux and Windows, sample code of which is available on request by software developers.

	Value	Description
Byte 1 (0xA0)	0x00	GPIO / 0x01 or DIO / 0x00.
Byte 2-3 (0xA1 ~ 0xA2)	0xA07	Output address.
Byte 4-5 (0xA3 ~ 0xA4)	0xA07	Input address.
Byte 6 (0xA5)	0xFD	Open cashdrawer1 value.
Byte 7 (0xA6)	0xFB	Open cashdrawer2 value.
Byte 8 (0xA7)	0xFF	Close cashdrawer value.
Byte 9 (0xA8)	0x01	Cashdrawer status mask.

Chapter 3

Software Installation and Setup

BP-500 series comes with a variety of drivers for different operating systems.

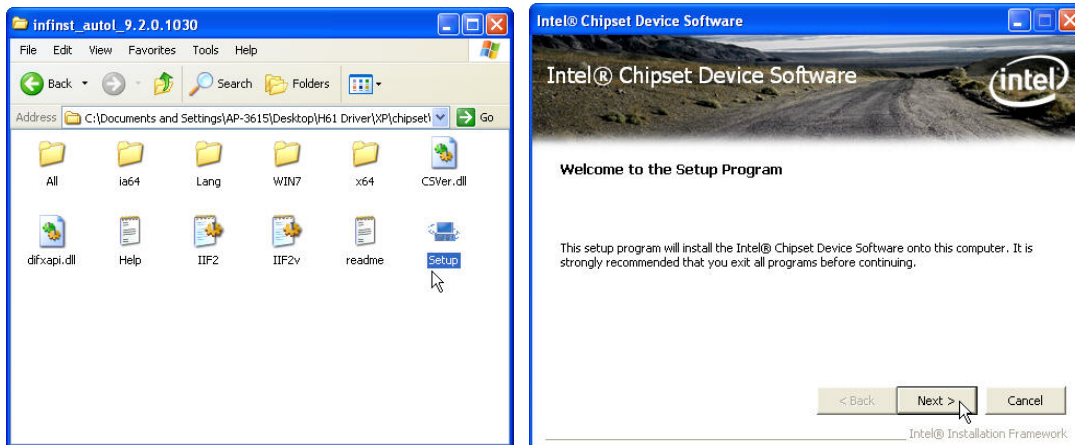
You can download all the necessary drivers and utilities from <http://www.fecpos.com>.

Or send an e-mail to the Customer Service Department of FEC for further assistance.

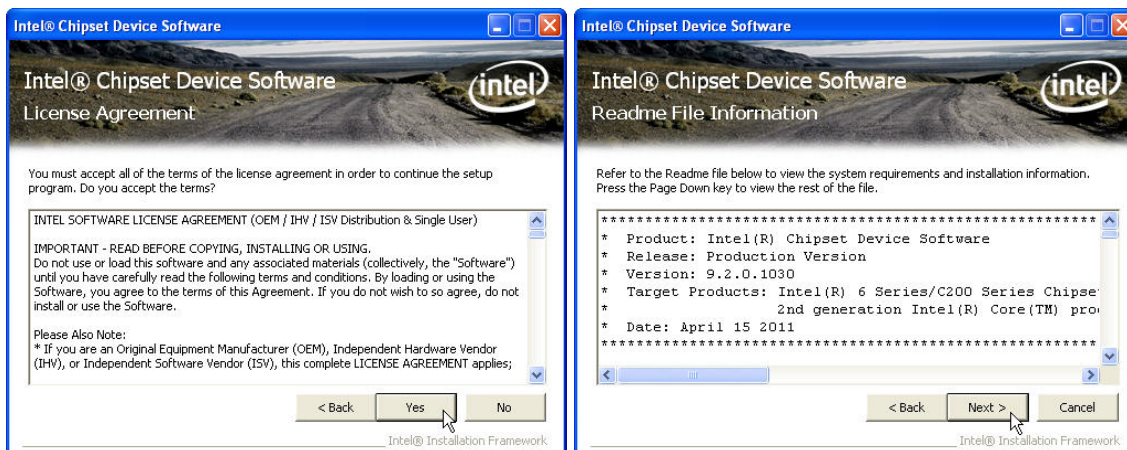
Chipset Driver Installation

Intel Chipset Installation Utilities for Windows XP

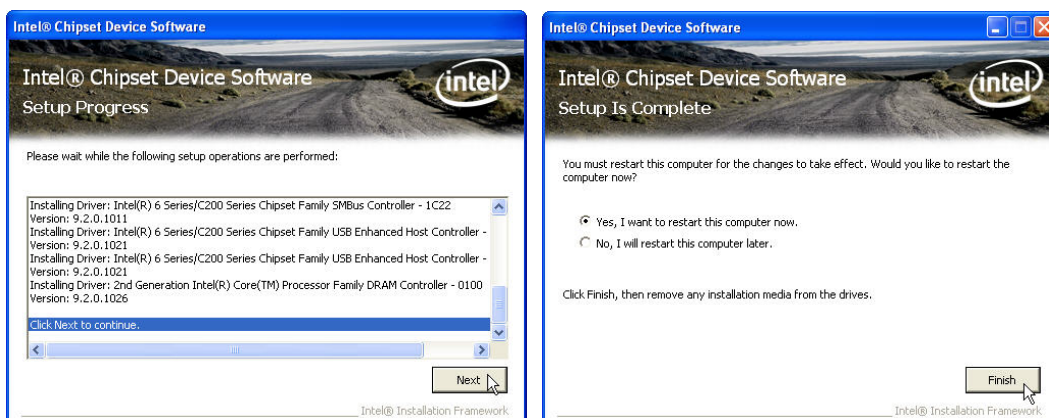
1. Download drivers from website or insert the Driver CD into your CD ROM Drive.
2. Execute **Setup.exe** and Click **Next**.



3. Read the License Agreement and click **Yes** & Click **Next** and the drivers for the Intel Chip set will install.

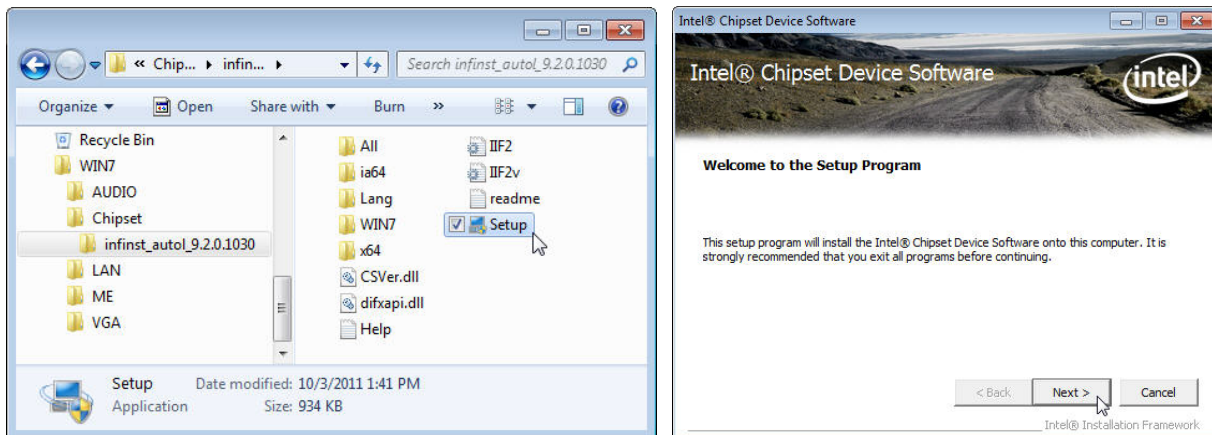


4. Click **Next** and choose "restart computer", then click to **Finish**.

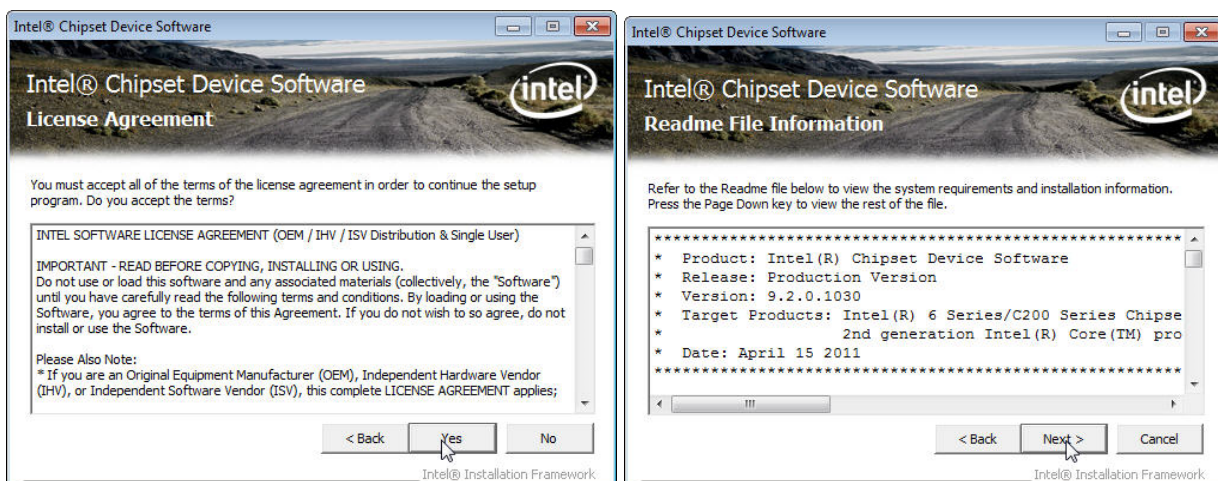


Intel Chipset Installation Utilities for Windows 7

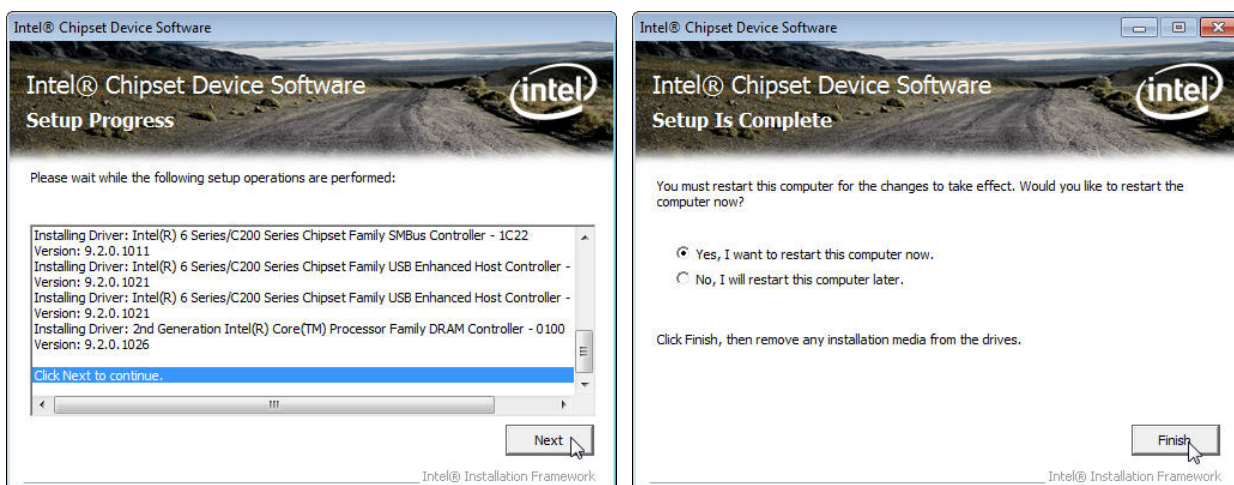
1. Download drivers from website or insert the Driver CD into your CD ROM Drive.
2. Execute **Setup.exe** and Click **Next**.



3. Read the License Agreement and click **Yes** & Click **Next** and the drivers for the Intel Chip set will install.



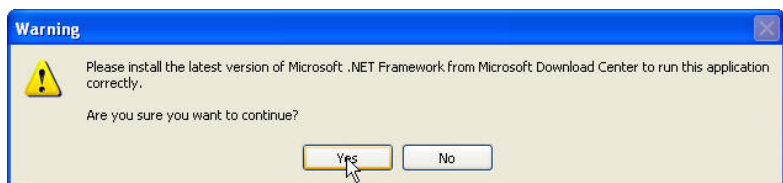
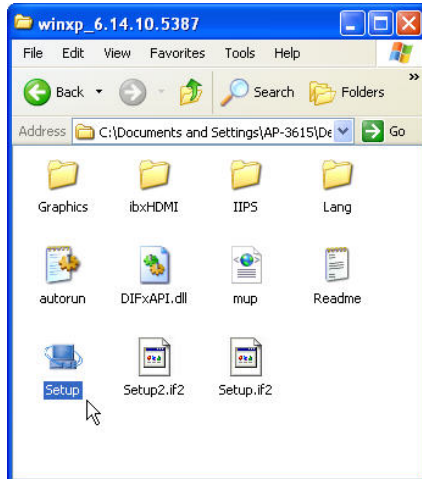
4. Click **Next** and choose restart computer for finishing the Chipset Driver, click to **Finish**.



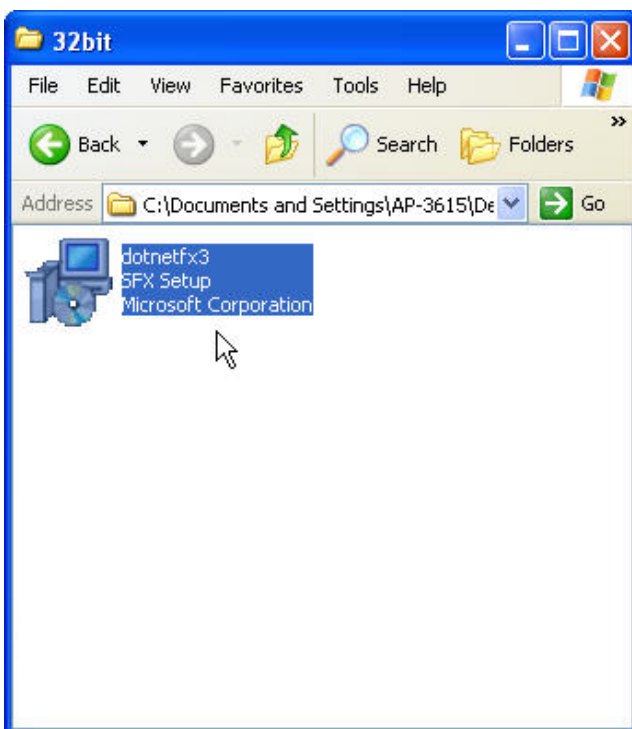
.Net Framwork 3.0 Tool Installation

.Net Framework 3.0 Tool for Windows XP

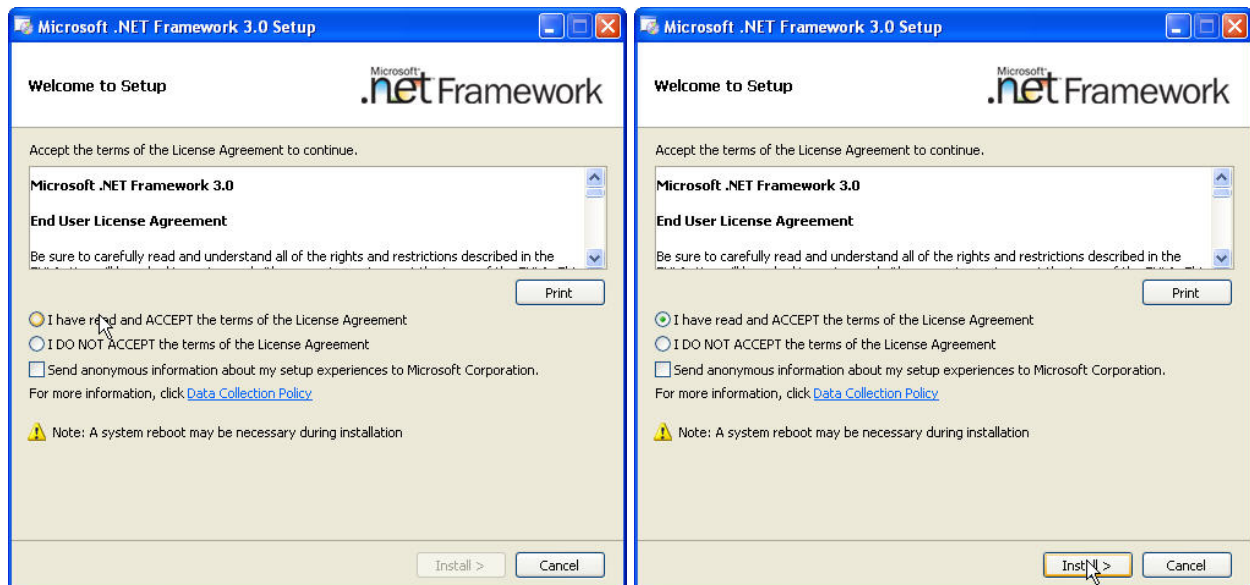
1. Download drivers from FEC website or insert the Driver CD into your CD ROM Drive.
2. Double click **Setup.exe**, and Click **Next** to start tool installation



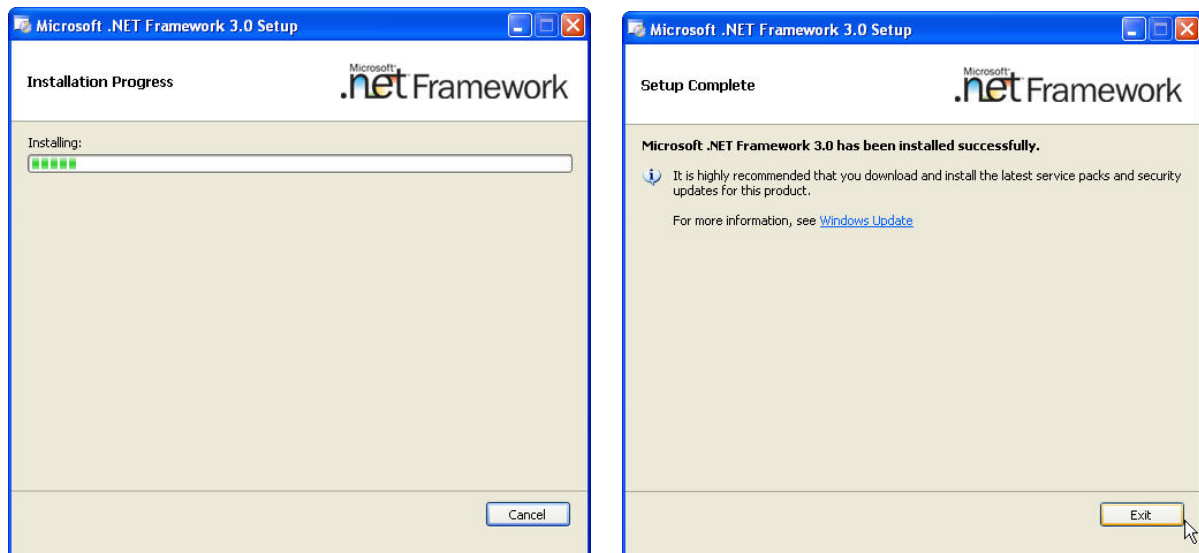
3. Execute dontnetfx3 for further **setup**



4. choose **I have read and ACCEPT** the terms of the license Agreement and click **Install** for the following steps



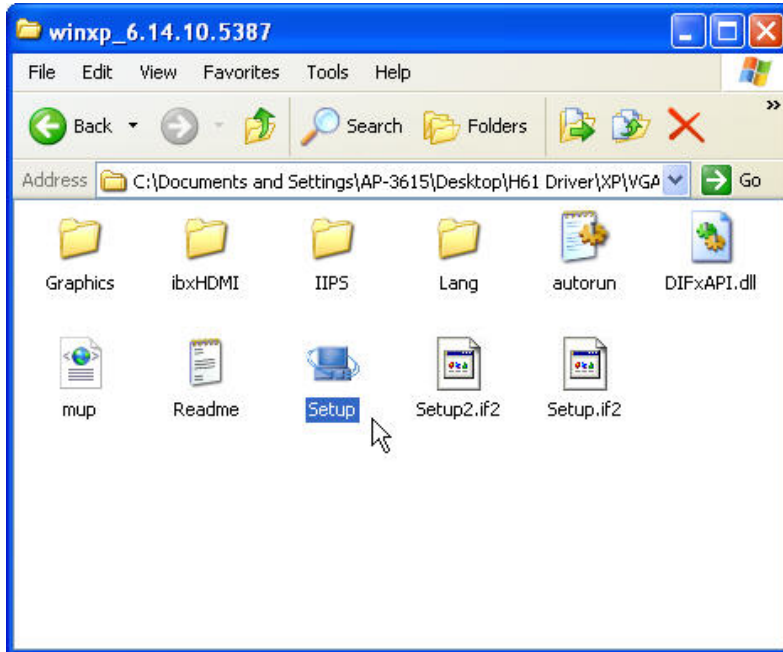
5. Click the message pop out to check for the detail process. Finally, click **Exit** to finish the installation.



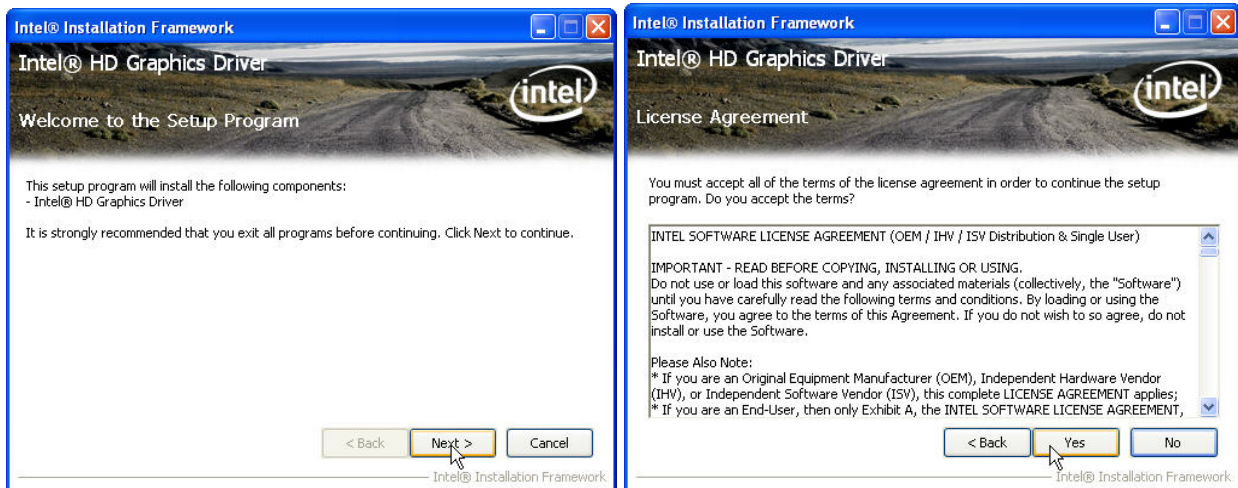
VGA Driver Installation

VGA driver installation for Windows XP

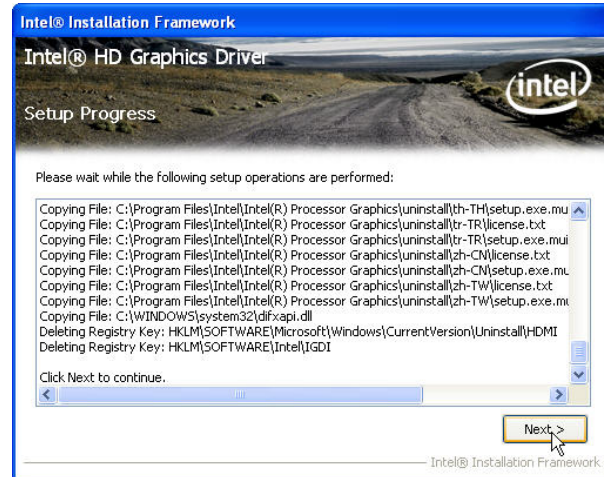
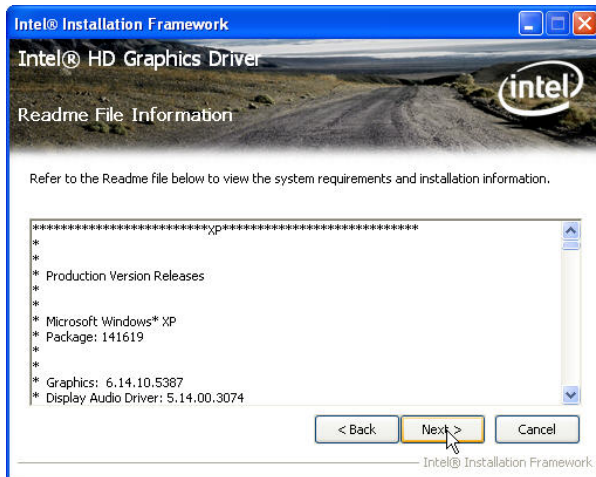
1. Download drivers from website or insert the CD into your CD ROM Drive.
2. Execute **Steup.exe**



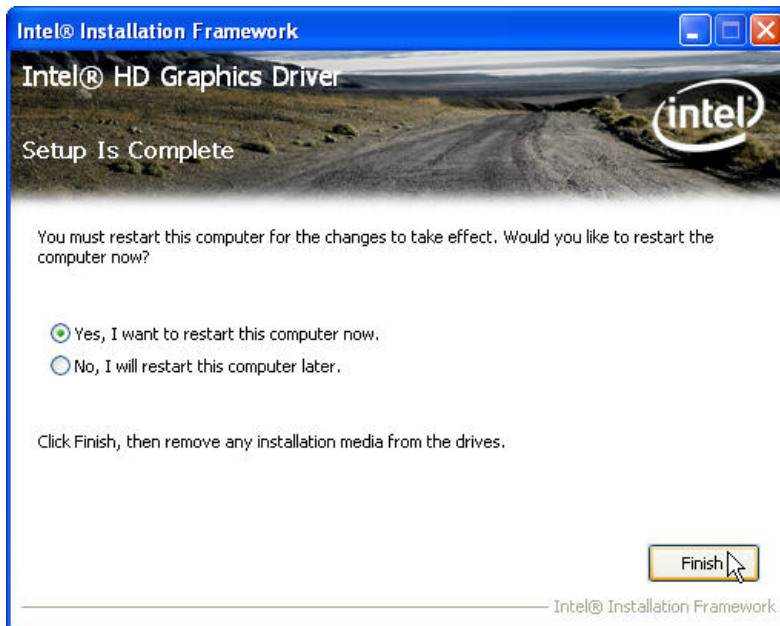
3. Select **Next** and click **Yes** of License Agreement Page.



4. Select **Next** to continue driver installation.

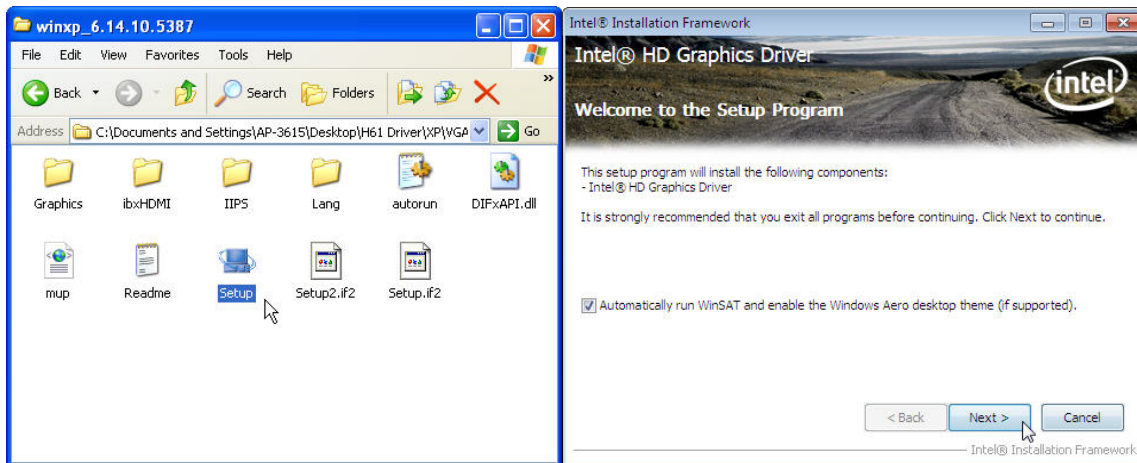


5. Finally, **Finish** and **Restart** the system



VGA driver installation for Windows 7

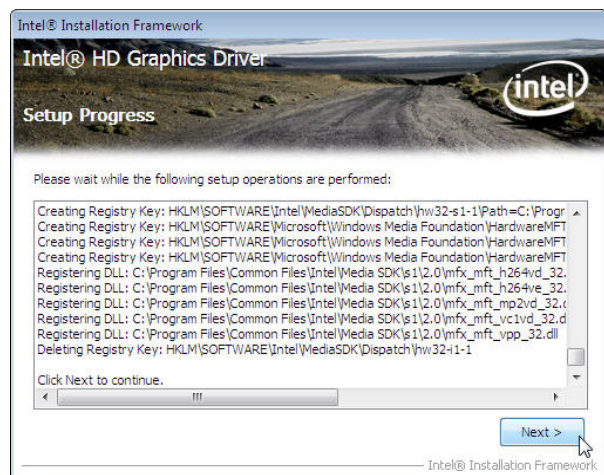
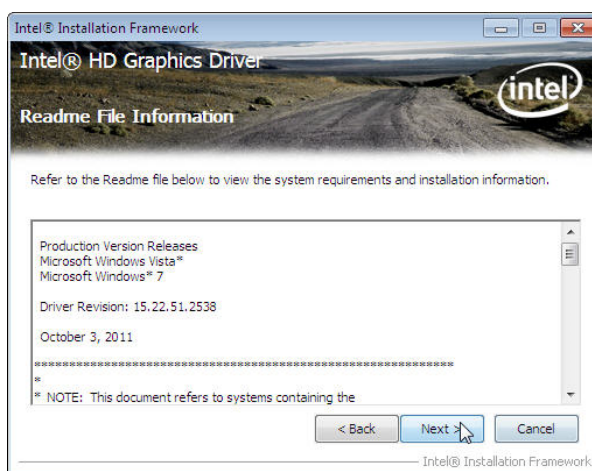
1. Download drivers from website or insert the CD into your CD ROM Drive.
2. Execute **Steup.exe** and select **Next**



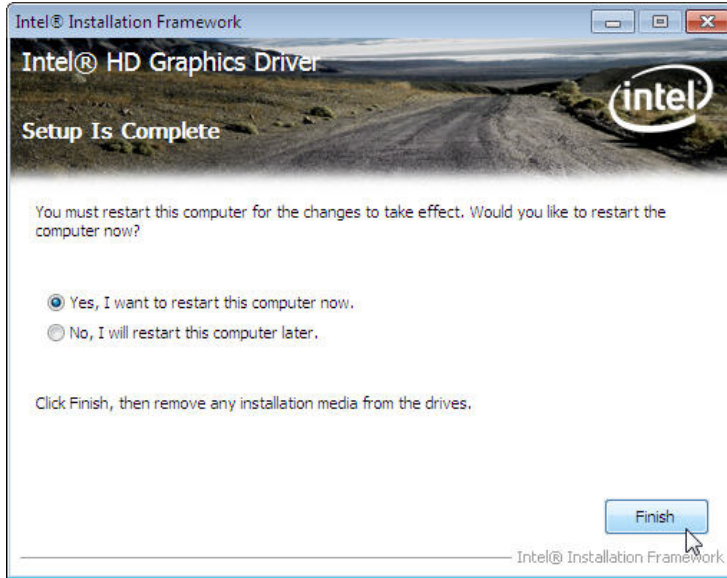
3. Click **Yes** of License Agreement Page.



4. Select **Next** to continue driver installation.



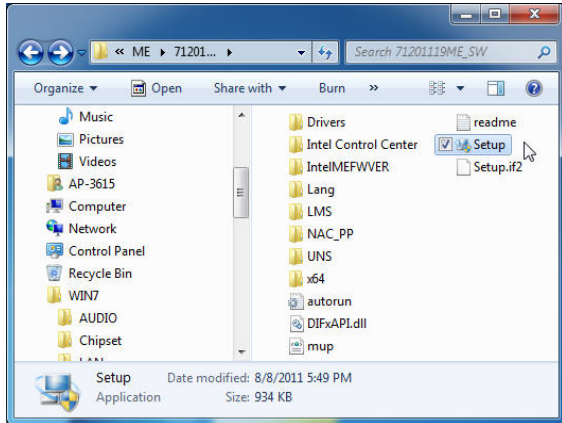
5. Finally, **Finish** and **Restart** the system



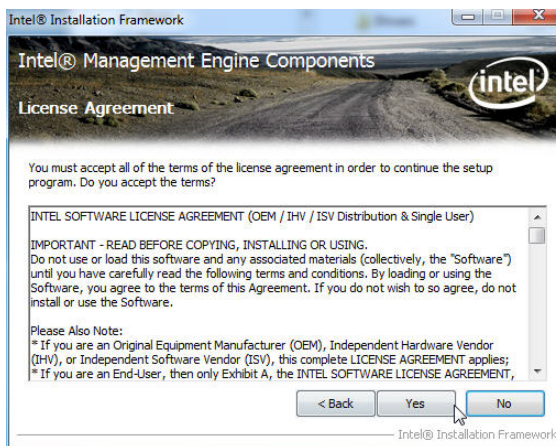
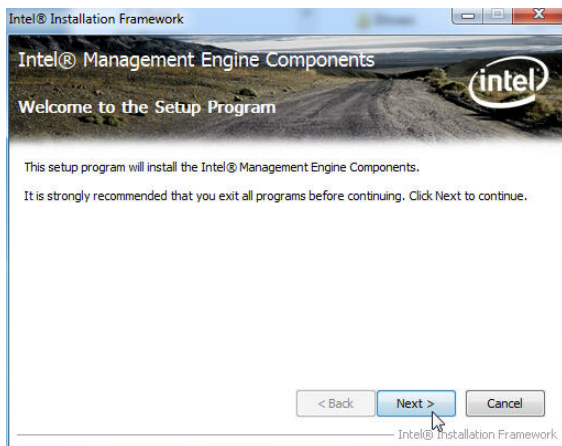
Intel Management Engine Components Driver Installation

VGA driver installation for Windows 7

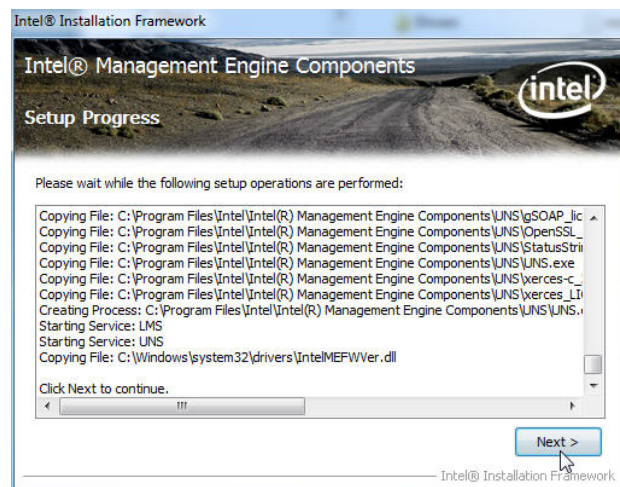
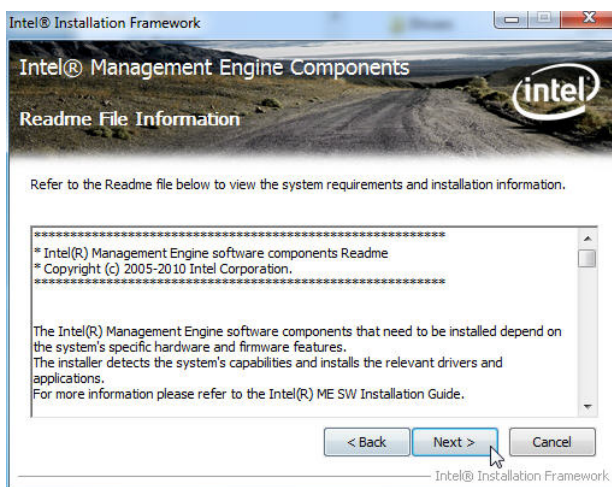
1. Download drivers from website or insert the CD into your CD ROM Drive.
2. Execute **Steup.exe**



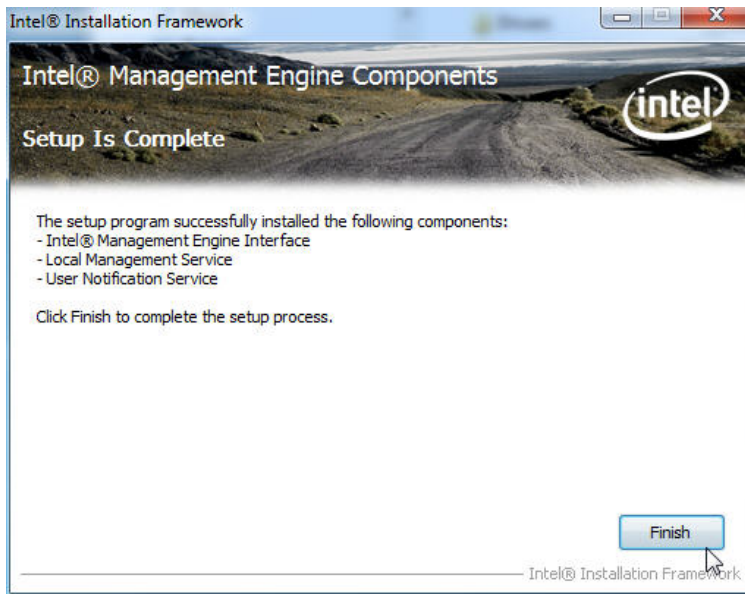
3. Select **Next** and click **Yes** of License Agreement Page.



4. Select **Next** to continue driver installation.



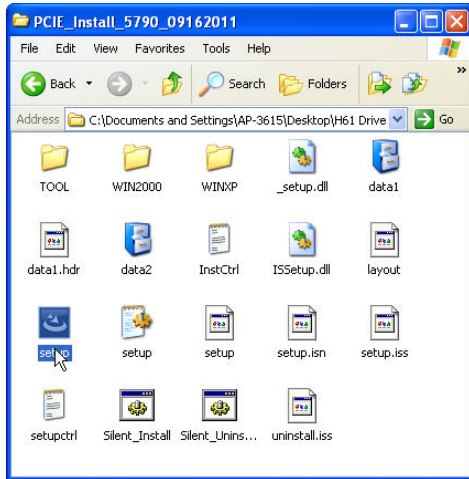
5. Finally, **Finish** and **Restart** the system



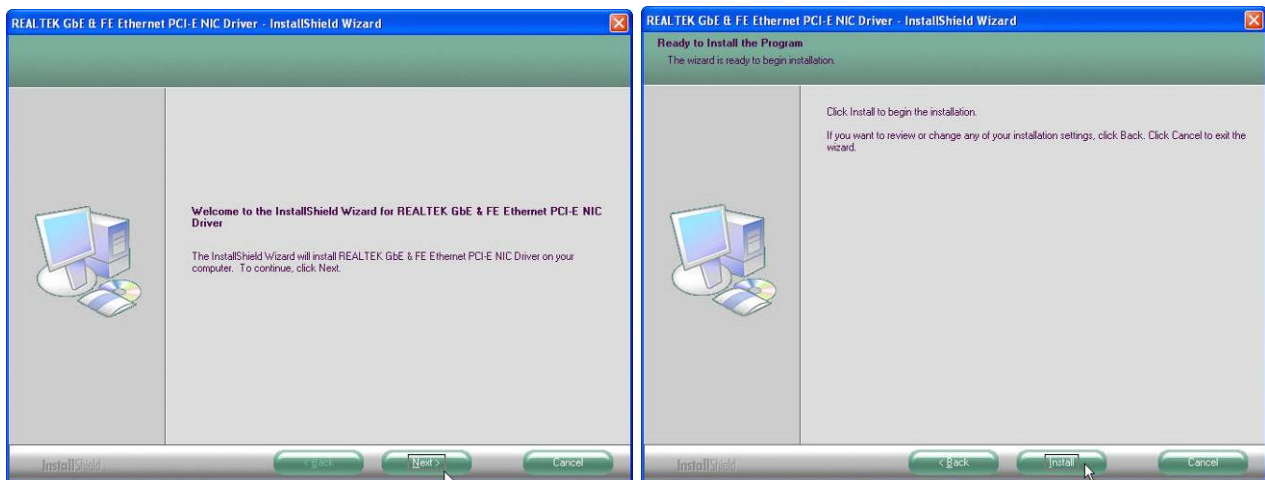
LAN Driver Installation

Realtek RT8111E LAN Driver Installation for Windows XP

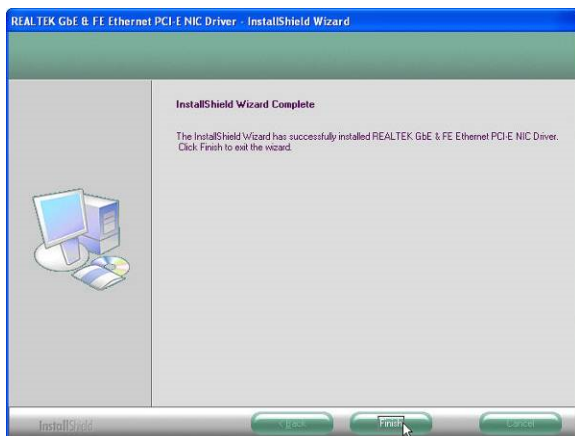
1. Download drivers from website or insert the CD into your CD ROM Drive.
2. Execute **Setup.exe**.



3. Click **Next** to continue

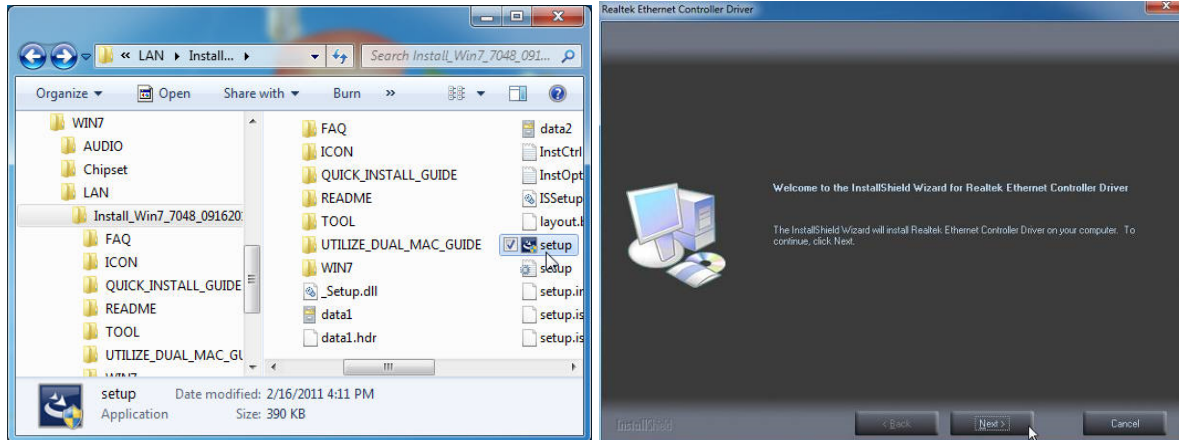


4. Click **Finish** to complete the installation procedure.

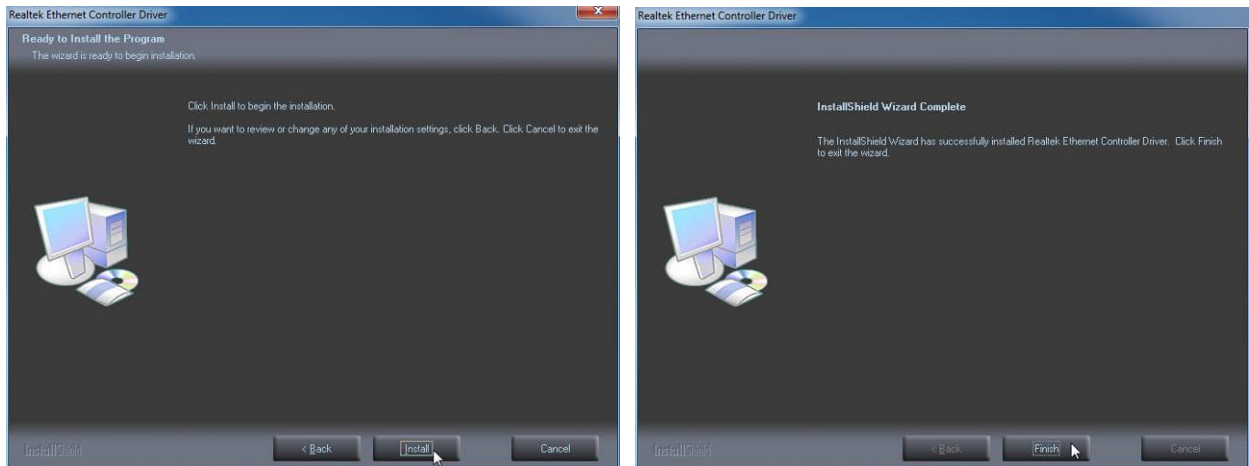


Realtek RT8111E LAN Driver Installation for Windows 7

1. Download drivers from website or insert the CD into your CD ROM Drive.
2. Execute **Setup.exe**.



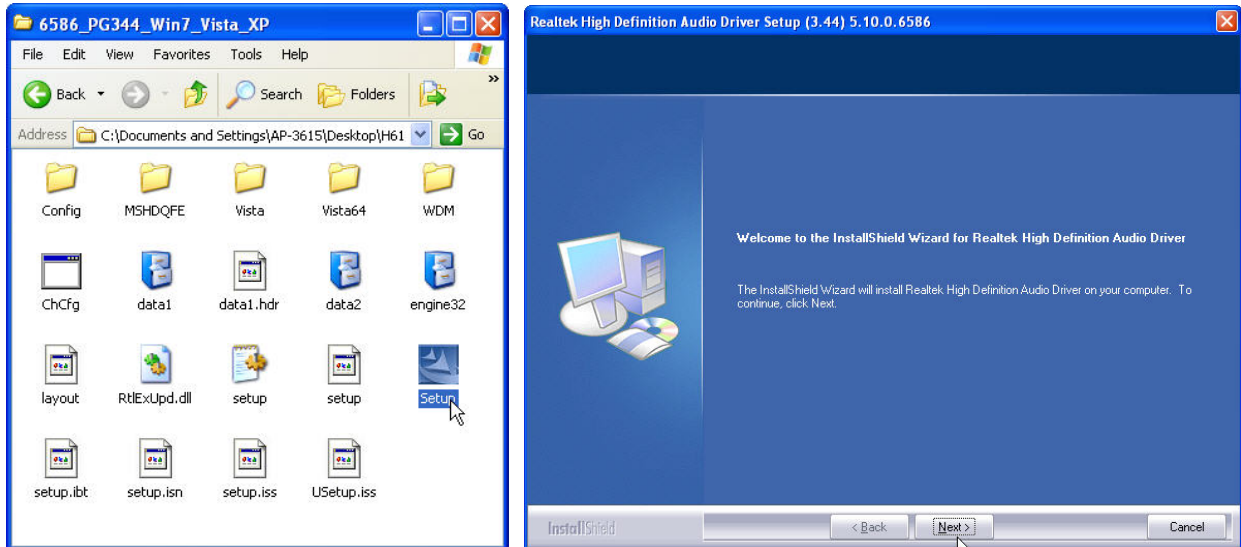
3. Click **Next** to continue and **Finish** to complete the installation procedure.



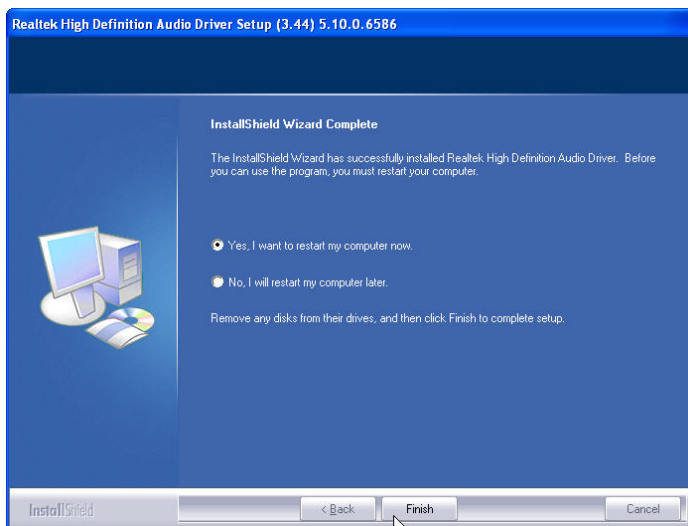
Audio Driver Installation

Realtek ALC887 Audio Driver Installation for Windows XP & Windows 7

1. Download drivers from website or insert the CD into your CD ROM Drive.
2. Double click **Setup.exe**, and Click **Next** to continue



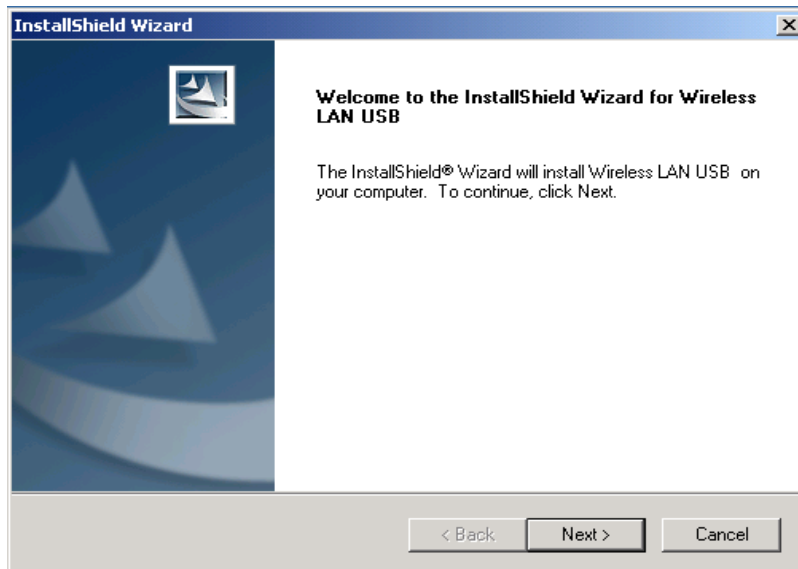
3. Click **Finish** and restart the system.



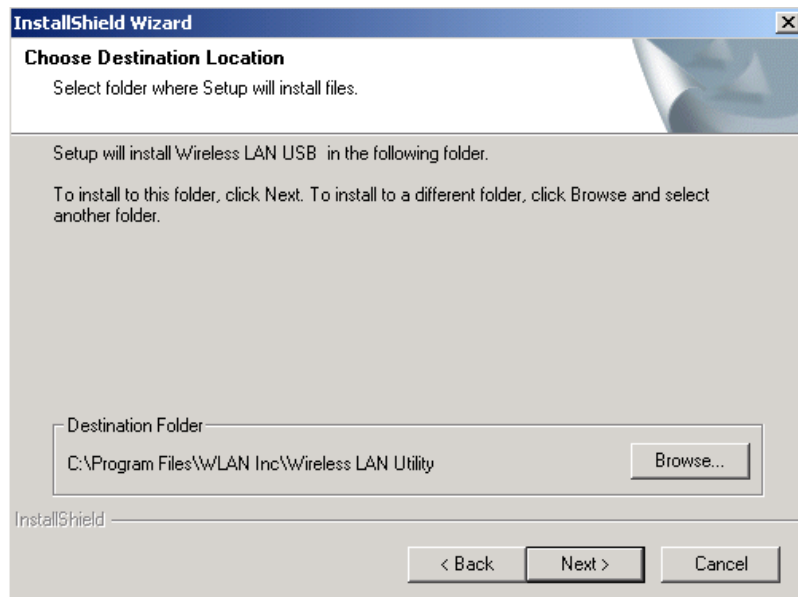
Wireless LAN Driver Installation

Wireless LAN Driver Installation for all Windows Operating Systems (Optional)

1. Download drivers from website or insert the CD into your CD ROM Drive.
2. Run **Setup.EXE**



3. Click **Next**



4. Click **Next**

Chapter 4

Specifications

BP-500 Specifications

BP-Series		Performance	
		BP-561	BP-562
			
Main Specifications	Chipset	Sandy Bridge (H61)	Sandy Bridge (QM67)
	Processor	Intel Celeron G540 2.5G Intel i3 2120 3.3G Intel i5 2400S 2.5G	Intel Celeron B810 1.6G Intel i5 2510E 2.5G
	Memory	DDR3 Standard 2GB, Max 8GB	
	Thermal	Smart Fan	
Main Storage		2 x 2.5" SATA Bays	
Others	Power Supply	ATX 250W	
	IO Support	Various IO Combinations Support	
	Kit	Mounting Kit Available	
	Dimension	W310 x D235 x H95	
Smart Management		Support / Smart Management LCM (Support with HUD)	
Vpro / iAMT		N/A	Vpro Enable

Chapter 5

Troubleshooting

Please note that the following troubleshooting guide is designed for engineer who has strong computer hardware knowledge or Engineers and Maintenance.

Touch Panel Does Not Work (AerPOS with touch Only)

- A) Check “Touch Display Module” is connected well with terminal.
- B) Check HID USB touch device is detected by OS.
- C) (Resistive Touch) Check if the EETI driver or the TouchKit driver has been properly installed. Or try to re-install again (Please refer to the EETI driver and touch kit installation).
- D) (Capacitive Touch) Check if the FEC-AUO Capacitive touch is automatically detected by Windows 7, or properly installed the touch driver in Windows XP.
- E) (Capacitive Touch) Please do not keep the capacitive touch in high humidity and condensing environment, such as out door or bathroom, where might affect the touch performance or might need to be calibrate more frequently.
- F) Check if the cable connects well between touch panels and touch controller
- G) (Capacitive Touch Calibration) Reboot the system, and the Capacitive Touch can be calibrated automatically.

OSD Panel Cannot Work Precisely

- A) Please touch each single OSD button for more than two seconds in order to trigger the function.
- B) Make sure the finger is not touching more than one button each time.

Cannot Detect SATA Storage HDD/SSD

- A) Make sure storage device is well connected in the SATA Connector.
- B) HDD FFC cable is not connected properly to the main board or it could be defective.
- C) Check CMOS setup, set SATA HDD to Auto Detect.
- D) On-board SATA port could be defective.

LAN Is Not Functioning Properly

- A) Check if the LAN driver is installed properly.
- B) Check if there are any IRQ conflicts.
- C) Check if the RJ45 cable is properly connected.
- D) The on-board LAN chip could be defective.

COM1 ~ COM4 Are Not Functioning Properly

- A) Check if the I/O ports are enabled in the CMOS setup.
- B) Check if there are any IRQ conflicts.
- C) The main board or I/O board could be defective.
- D) (Reminder) The COM3 is simple com (RX, TX, VCC & Ground).

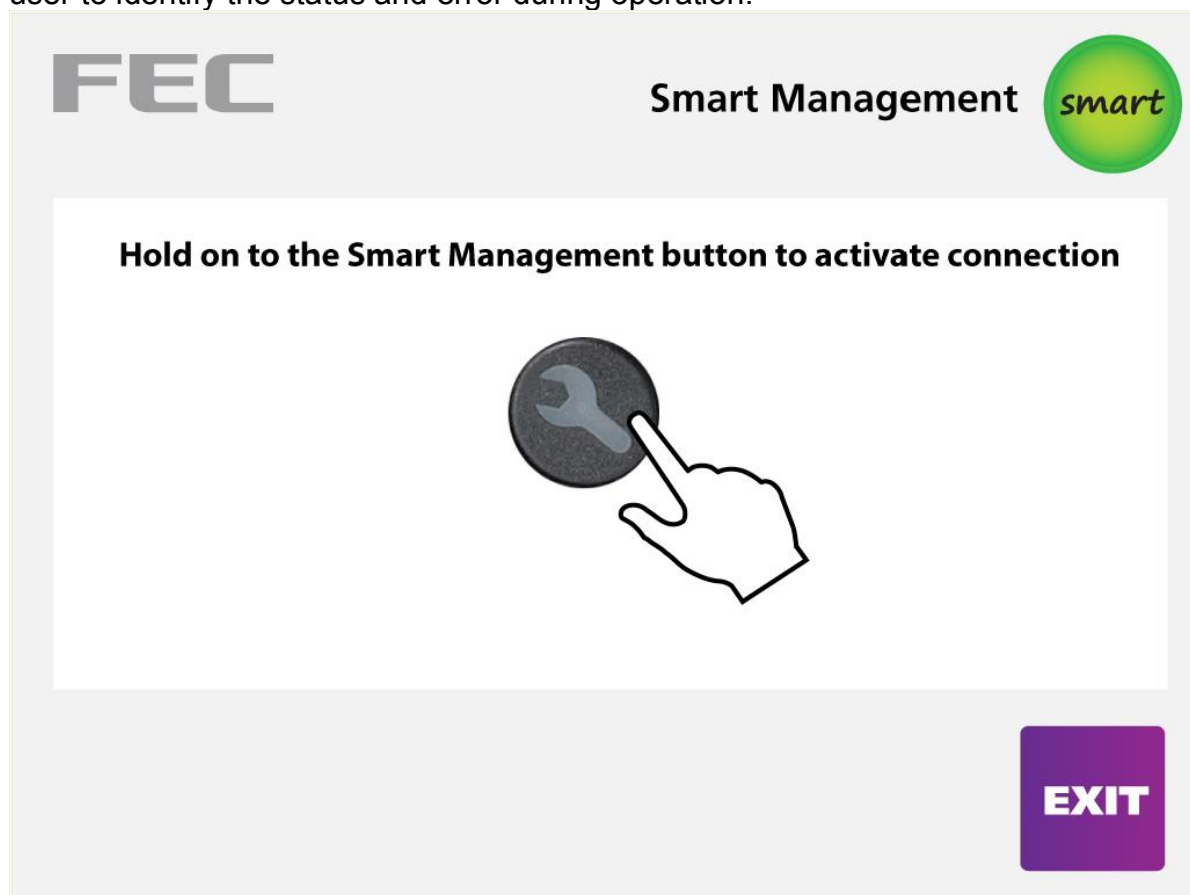
Cash Drawer Port Is Not Functioning Properly

- A) Make sure the pin assignment matches between the cash drawer and the RJ11 cash drawer port.
- B) Verify if the digit I/O port address and bit are correct.
- C) The main board could be defective.

Appendix A:

Smart Management Tool User Guide

Smart Management Tool is FEC latest hardware management engine built in AerPOS & BP-500. With this tool, user could easily access the data inside the system that could user to identify the status and error during operation.



Press the Smart Management button the AP-3615 / BP-500 for 5 seconds to enter the **Terminal Status**. (This button is just above the external USB connector, Please make

sure you did not press the Power Button or HDD LED)

FEC

Smart Management

smart

TERMINAL STATUS

MB Version :	HH611
BIOS Version :	F2
IO Version :	00.000.IO00001d
Display Version :	00.000.DP00001e
Operation Service Hours :	534h:11m
Stand-by Service Hours :	569h:11m
Abnormal On/Off Count :	5
ON / OFF Total :	150
System Operation Hour :	13h:15m
Display Module Plug in Time :	15
Total Display Module Standby Hour :	772h:11m
Total Back Light Hour :	1115h:0m

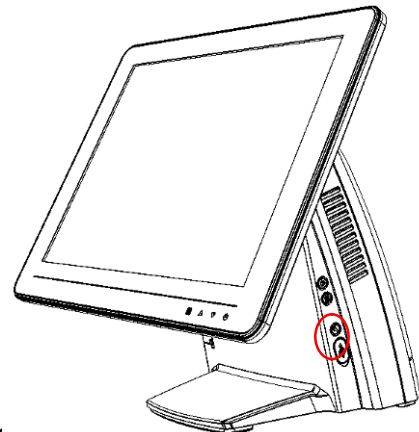
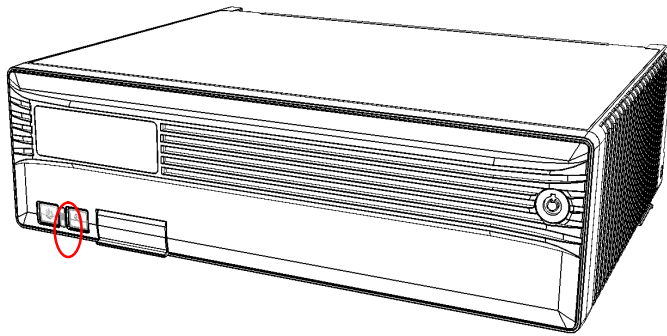
T
E
R
M
I
N
A
L

T
H
E
R
M
A
L

P
O
W
E
R
S
T
A
T
U
S

A
D
V
A
N
C
E
D

E
X
I
T



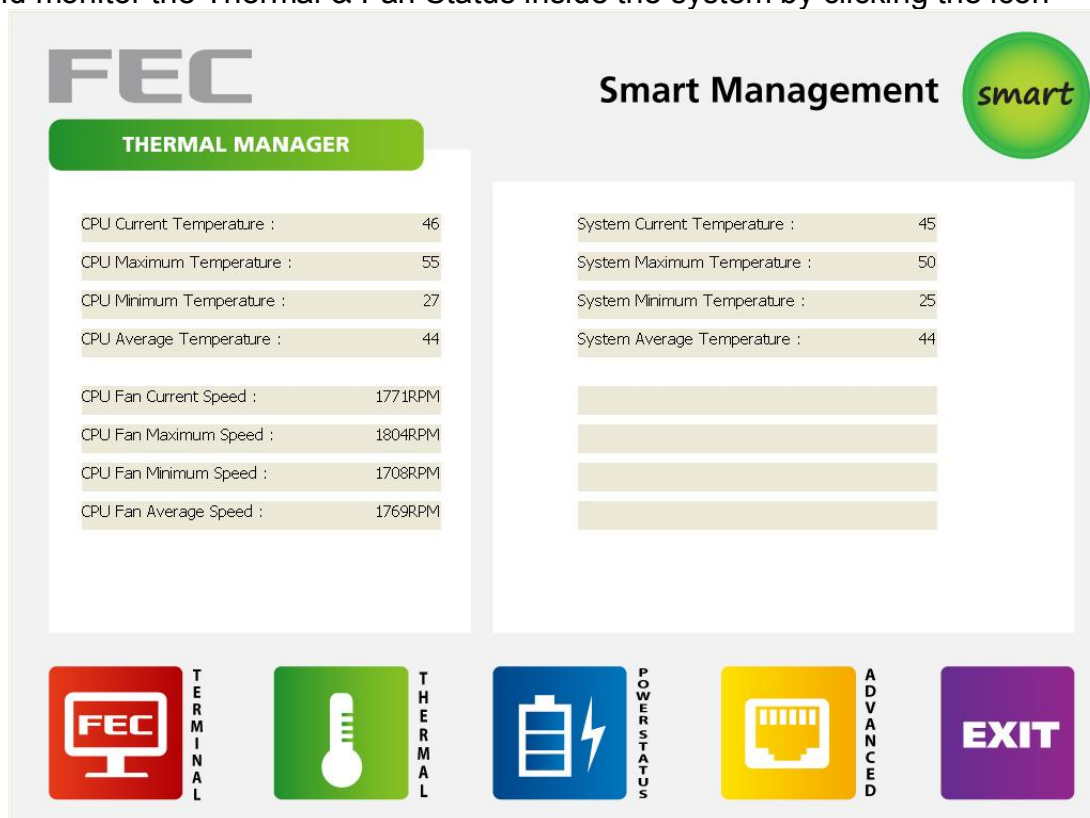
Please refer to the following definition table for the information shown on the **Terminal Status**

Item	Description
MB Version	Shows the M/B version
BIOS Version	Shows the BIOS version of the M/B
IO Version	Shows the firmware version on the I/O board
Display Version	Shows the firmware version on the Display board (AerPOS only)
Operation Service Hours	Shows the time this system has been powered up
Stand-by Service Hours	Shows the time this system has been connected to A/C input

Abnormal On/Off Count	Shows the times this system has been force disconnect with A/C input
ON/OFF Total	Shows the times this system has been power on & off normally
System Operation Hours	Shows the latest time the system has been operated
Display Module Plug in Time	Shows the times the display module has been re-plugged (AerPOS only)
Total Display Module Standby Hours	Show the time the display module has been connected with the system & the system has been connected to A/C input (AerPOS only)
Total Back Light Hour	Show the time the backlight has been used (AerPOS only)

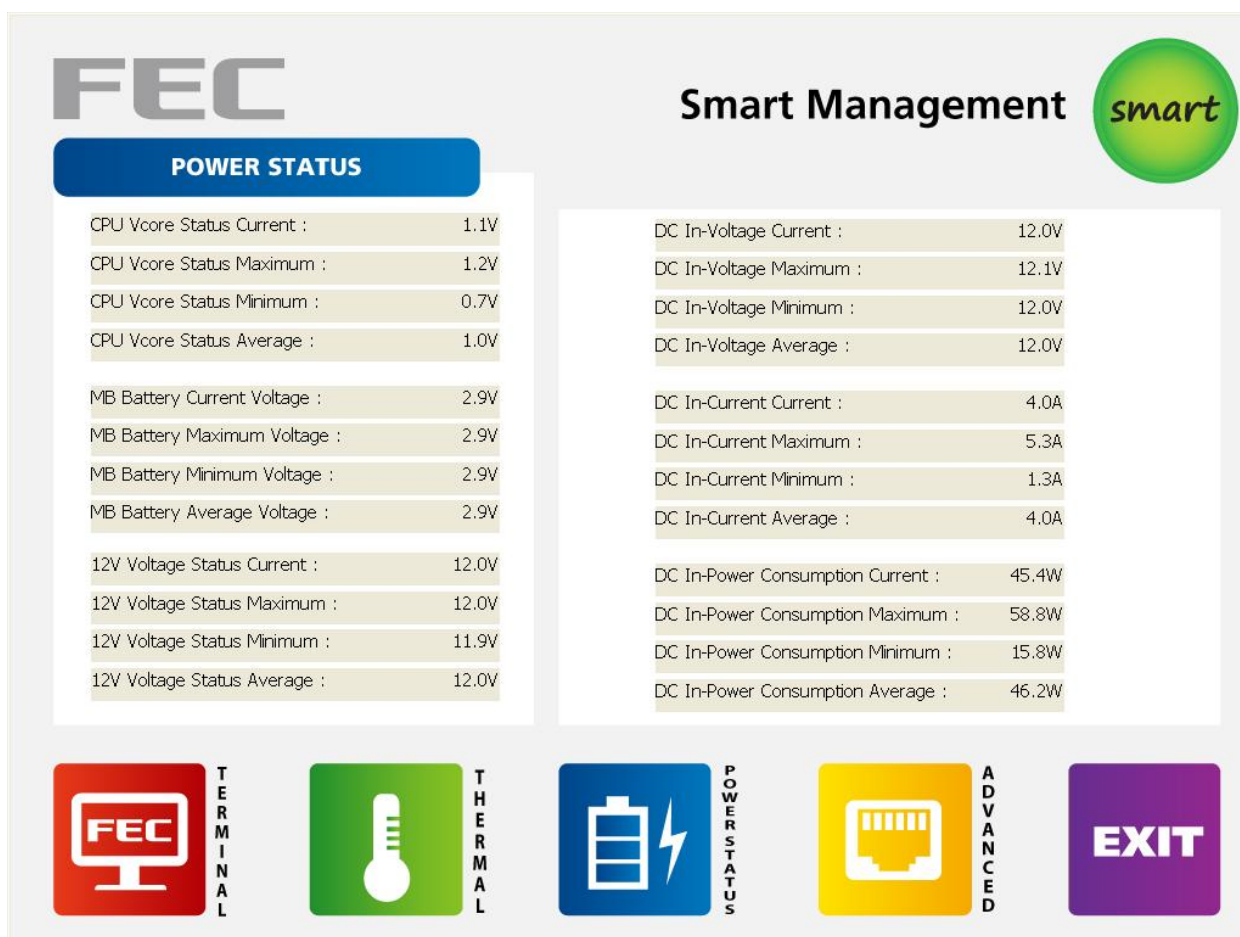
Each data would be recorded after the system is shutdown normally, for any incorrect operation or force shutdown, only Abnormal On/Off Count & ON/OFF Total will be recorded, the rest data will missed.

User could monitor the Thermal & Fan Status inside the system by clicking the icon



Thermal.

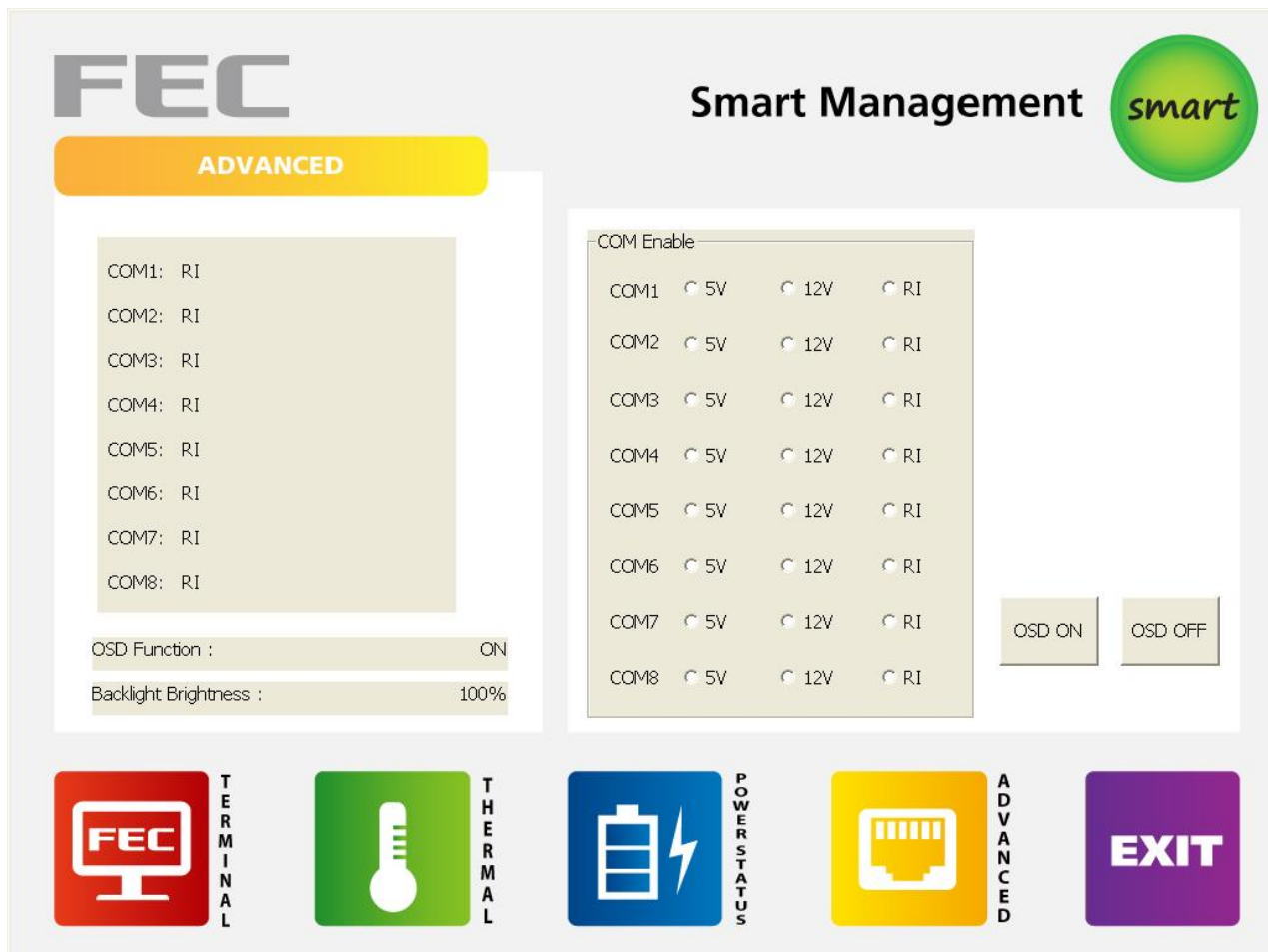
User could monitor the power status on the M/B by clicking the icon **POWER STATUS**.



Item	Description
CPU Vcore Status	Shows CPU Vcore status
MB Battery Voltage	Shows the Voltage of M/B battery (If the data of current is too low, please contact FEC Service Department for battery replacement)
12V Voltage Status	Shows the voltage of 12V on the M/B
DC In-Voltage	Shows the voltage of DC-IN (If the data is too low, please check the power adaptor)
DC In-Current	Shows the current of 12V DC-IN(If the data is too low, please check the power adaptor)
DC in-Power Consumption	Shows the power consumption of AP-3615 or BP-500

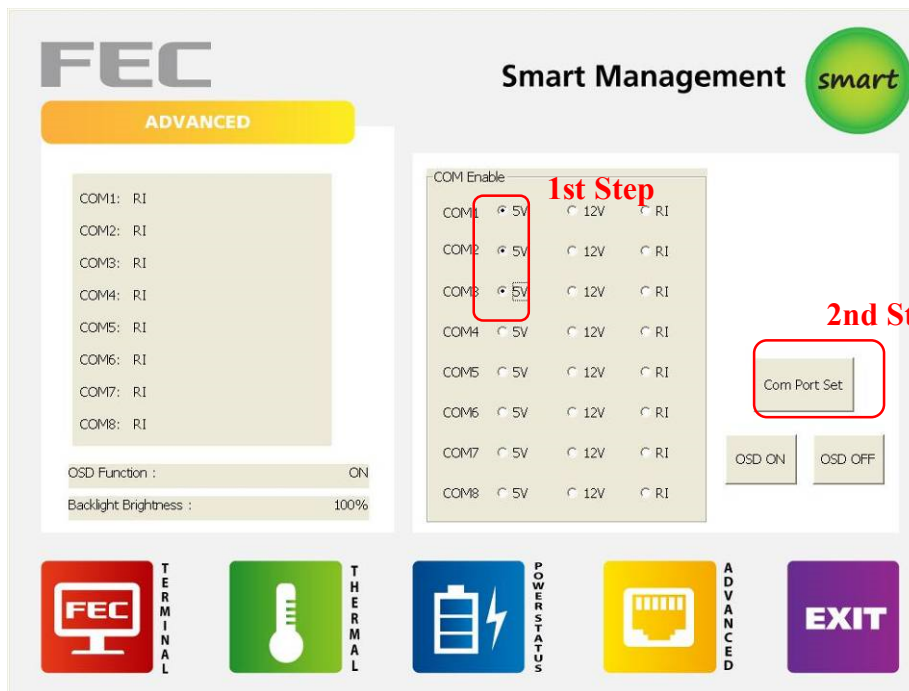
In **Advanced mode**, there are 3 settings could be accessed by the user.

- COM Port Voltage Setting: Please ensure this setting must be operated by the engineer who with strong knowledge of AerPOS & BP-500 and its devices. Inappropriate operation might cause the damage of the powered devices.
- OSD Enable or Disable (AerPOS only)
- Backlight Brightness: Display only, the adjustment must be through OSD

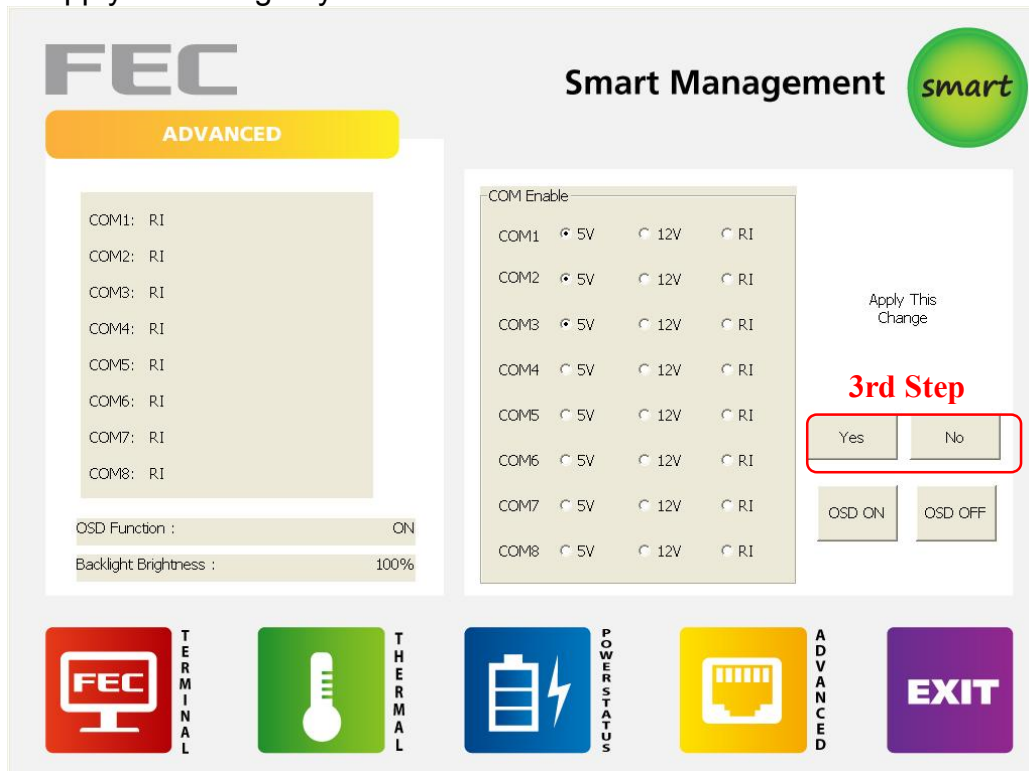


Following is the example to adjust the setting of COM1, COM2 & COM3 from RI mode to 5V enabled.

a. Click COM1 5V, COM2 5V, COM3 5V and COM Port Set



b. Apply the change by click the icon



c. Double confirm to apply this change



d. Shutdown the system and proceed the cold reboot

User could enable/disable the OSD function by select following options. After apply the setting, **A cold reboot is required.**

